Genesee Farmer.

D. FRAUENBERGER, SC.

Vol. XVII, Second Series. ROCHESTER, N. Y., FEBRUARY, 1856. No. 2.

J. B. LAWES AND JUSTUS VON LIEBIG.

(Concluded.)

We have, in our former articles, brought forward what we deemed conclusive evidence, that there is a great loss of ammonia in the growth of wheat. Liebig endeavors to set it aside by saying that the ammonia in Mr. Lawes' experiments acted beneficially because it rendered the phosphates of the soil soluble. We conceive that we have fully answered this objection in our former articles, and hope our readers will refer to them. Assuming that the action of ammonia is in rendering the phosphates soluble, Liebig says:

"If it had accidentally occurred to Mr. Lawes to manure his field with four, five, or six cwt. of ammonia salts, instead of 3½ cwt., and if in those cases the yield was not increased (as we may *with certainty* assume would happen), then he might with the same justice assert that the loss of ammonia is 6, 8, or 10 lbs. for every bushel of increased yield. * * * It seems never to have occurred to Mr. Lawes to determine the minimum of ammonia which was effective upon his field in producing maximum crops."

We trust Liebig had not Mr. Lawes' papers before him when he penned these sentences, otherwise he is inexcusable. Ammonia has been applied in these experiments in *hundreds of instances*, and in various proportions; and in all cases it has produced, where unaffected by modifying causes, an increase, within certain limits, in proportion to the quantity of ammonia; and in no single instance has an increase of wheat been obtained except by a great destruction of ammonia. Quantities of ammonia, varying from 14 lbs. up to 180 lbs. per acre, have been applied; and even in these extreme cases, the increase of wheat is in proportion to the ammonia supplied in manure: the former produced 21¼ bushels, the latter 50 bushels of dressed wheat, or 55 bushels (of 60 lbs. per bushel) of total grain, per acre. The amount of ammonia applied to this latter plot would be contained in about 815 lbs. of commercial sulphate of ammonia. And yet Liebig says we may "*with certainty assume*" that if Mr. Lawes had accidentally manured his field with 4, 5, or 6 cwt. of ammonia salts, he would have obtained no greater increase than from 3½ cwt. Now, as we have shown, he *did* apply—not "accidentally," however—*more* than 4, 5, or 6 cwt., *and obtained a proportional increase.* We may "with certainty assume," therefore, that Liebig has made a great mistake on this point.

The objections which Prof. Liebig has made to Mr. Lawes' experiments, are so utterly with foundation *in fact*, that nothing but his great reputation renders them worthy of notice.

Our remarks are already far too extended, but we have just received the last *Journal of the Royal Agricultural Society of England* (Vol. XVI, Part I), in which we find a "Report to the Earl of Leicester, on experiments conducted by Mr. Keary, on the growth of wheat, at Holkham Park Farm, Norfolk, by J. B. Lawes," which affords much light on the subject under discussion. It is a report of an experiment in growing wheat four years in succession, by the use of the various organic and inorganic elements of plants, somewhat similar to that on the Rothamstead farm, with this important difference: The soil at Rothamstead is a heavy wheat soil; this in Norfolk is "a light, thin, and rather shallow brown sand loam," which, previous to the introduction of turnip-culture by the late Wm. Coke, on this very farm, was considered incapable of growing wheat. A greater contrast than between it and the Rothamstead soil could scarcely be imagined. *And yet the results are the same.*

The same manures were applied to the same acre each year, and the whole of the produce removed. We have not space for the details, but the following are the aggregate results of the four years:

The first acre, on which no manure at all was used, produced in four years, 93¼ bushels, or an average of a little over 23¼ bushels per acre each year.

The second acre, dressed each year with 300 lbs. sulphate of potash, 200 lbs. sulphate of soda, 100 lbs. sulphate of magnesia, and 350 lbs. of superphosphate of lime (200 lbs. calcined bone-dust and 150 lbs. sulphuric acid), produced, in four years, 92 bushels, or an average of 23 bushels per acre each year.

The third acre, dressed each year with 200 lbs. each of sulphate and muriate of ammonia, applied *in the autumn*, produced, in four years, 125¼ bushels, or a little over 31¼ bushels per acre each year.

On the fourth acre the same quantity of ammonia applied *as a top-dressing in the spring*, gave, in four years, 124 bushels, or an average of 31 bushels per acre each year.

On the fifth acre, the same quantity of mineral manures (sulphates of potash, soda, and magnesia, and superphosphate of lime,) as applied on the second acre, and 200 lbs. each of sulphate and muriate of ammonia, produced, in four years, 145 bushels, or an average of 36¼ bushels per acre each year.

The sixth acre, dressed with a ton of rape-cake (2000 lbs.) each year, produced, in four years, 147¼ bushels, or an average of 36¾ bu. per acre each year.

The seventh acre, dressed each year with 14 tons of farm-yard dung, produced, in four years, 135½ bushels, or an average of 33¾ bushels per acre each year.

Without manure the soil produced 23 bushels of wheat per acre; the addition of mineral manures alone gave no increase; ammonia alone gave an increase of 8 bushels; ammonia and minerals, an increase of 13 bushels. From this it is evident that the amount of minerals annually available in this naturally poor soil, were considerably in excess of the quantity of ammonia annually available from natural sources; in fact, that there were minerals sufficient for 31 bushels, while there was only enough ammonia for 23 bushels. But the quantity of minerals annually rendered available by the disintegration of the soil, &c., although considerably in excess of the *natural* supply of ammonia, was not sufficient for more than an annual crop of wheat of 31 bushels per acre. To obtain more than this, it was necessary to supply, in addition to ammonia, a greater or less quantity of the mineral elements of plants. When these were supplied, the produce rose to 36 bushels.

The fact that, under these circumstances the mineral manures were taken up by the plants, and gave an increased crop, is conclusive evidence that they were in an available condition, and that their failure, when used alone, in these and in the Rothamstead experiments, is attributable to a lack of ammonia in the soil, and not to their being in an unsuitable form or improper proportion. It demonstrates that although a soil abounds in the mineral elements of plants in an available condition, sufficient ammonia or nitrogen can not be obtained from natural sources for a full wheat crop. It is additional proof, if such were needed, that ammonia does not act solely, or in any great degree, by rendering phosphates or other minerals soluble.

The ton of rape-cake was calculated to afford as much ammonia and minerals as were supplied in the artificial minerals and ammonia salts on plot 5. It also contained, in addition, a large amount of carbonaceous matter. It will be seen that the increase of wheat is nearly identical in the two cases, and it follows that the *carbonaceous* matter had no beneficial effect on the wheat crop. This also is a result exactly in accordance with the Rothamstead experiments.

Similar results to the above have also been obtained from experiments made on the farm of the Duke of Bedford, at Woburn, on a soil and subsoil naturally of the poorest possible description.

It will be recollected that Prof. LIEBIG endeavored to set aside the exceedingly important fact that turnips, which contain only a relatively small proportion of phosphoric acid, require in the soil, in an available condition, more of this substance than wheat, the ash of which contains five times as much as that of turnips. We showed that he founded his objections on a *single typographical error*, which he might have discovered on the next page. We shall not again allude to the results of Mr. LAWES experiments on this point; they are so conclusive that he must be blind indeed who can not see that they explode the idea that we can tell what manure is best adapted to this or that particular crop, from an analysis of its ashes. Our object in alluding to the matter, is to mention that, in the last *Journal of the Royal Agricultural Society*, Dr. AUGUSTUS VOELCKER, Professor of Chemistry in the Royal Agricultural College, Cirencester, England, gives an account of some experimental trials made on the farm connected with the College, to ascertain "the comparative value of different artificial manures for raising a crop of Swedes" or ruta bagas, the results of which also accord with those obtained by Mr. LAWES. We have not room for the details of the experiments, but will quote a few of the remarks of Dr. VOELCKER:

"An extended experience has proved, in the most positive manner, the specific action of phosphatic manures, and the decided advantages which result from their application to *root crops*."

"Numerous comparative field experiments have established the superior value of superphosphate of lime as a manure for *root crops*, and have shown likewise that the greatest fertilizing effect of guano is realized by applying it to a white crop or to grass land."

"Ammonia does not exhibit the same powerful effect on other crops which it does on the cereals."

"Ammonia does not benefit root crops in an equal degree as white crops; whereas, phosphatic manures exercise a specific action on roots, which causes them to swell, and thus to increase the crop."

"Phosphoric acid, applied in a form in which it can be readily assimilated by the growing plant, *more than any other fertilizing constituent*, benefits root crops."

"On the whole, we may learn from these experiments, that the value of different artificial manures for a crop of Swedes, and no doubt also for other root crops, principally depends on the amount of phosphoric acid contained in them in a form in which it can be readily assimilated by the plants."

The experience of practical farmers also agrees with these experiments, in according to available phosphoric acid a high value as a special manure for turnips. One manufacturer alone sold, in Great Britain, last year, 14,000 tons of superphosphate of lime to be used as a manure for—what?—for wheat, which contains so much phosphoric acid? No; but for TURNIPS, which contain so little.

AGRICULTURAL IMPROVEMENT IN 1855.—The *Boston Cultivator*, in an excellent article on "The Old Year and the New," thus speaks of the agricultural improvements that have been made during the past year:

"Respecting agricultural improvements during the past year, we are not aware that any very striking novelties have been brought out, except sundry inventions in the mecanical line, whose utility, for the most part, remains to be tested by use. General progress has doubtless been made, though progress in this department is, and from the nature of things must be, slow. If the 'kingdom of heaven cometh not with observation,' even so come improvements in agriculture. The *dissemination* of knowledge is comparatively easy, under present facilities, but its *origination* is more difficult. True, much has been heard within the past ten years in regard to a 'new era' in agriculture. An important step in the introduction of this era, was to be the use of certain *mineral* manures. After the shedding of much ink in support of this idea, there is some evidence of the prevalence of more rational views in the fact that the originator of the 'mineral manure theory' denies that he ever believed it! Truth is gradually educed from the chaos in which it has been confounded with error, and its ultimate triumph is sure."

PLANTS indigenous to a country must, from the very nature of things, always be easier to cultivate than exotics.

THE APPLICATION OF LIME.

A WELL-KNOWN Virginia farmer, who is generally "down" on everything having any affinity to agricultural chemistry, writes us as follows:

"I respect your *science* more than I do that of most agricultural editors, and am about to prove my sincerity by asking you, without alluding to me, however, to write an editorial, giving the views of Prof. WAY on the application of lime—I have no access to them myself—and their adaptability to stiff clay flats, wet, but rich when drained and limed—diluvium.

"The question of applying lime to such soils is one of much interest to me, as I have several hundred acres of just such land in cultivation to which I should be happy to introduce you if you can trust yourself among slave owners."

The views of Prof. WAY, (Chemist to the Royal Agricultural Society of England,) referred to, we presume are those contained in a lecture of his delivered some three years ago, portions of which were pretty extensively copied into our agricultural papers at that time.

Prof. WAY had made a series of investigations on the "absorbtive properties" of soils. He found that ordinary soils possessed the power of separating from solution in water the different earthy and alkaline substances presented to them in manure; thus, when solutions of salts of ammonia, of potash, magnesia, &c., were made to filter slowly through a bed of dry soil, five or six inches deep, arranged in a flower-pot, or other suitable vessel, it was observed that the liquid which ran through, no longer contained any of the ammonia or other salt employed. The soil had, in some form or other, retained the alkaline substance, while the water in which it was previously dissolved passed through.

Further, this power of the soil was found not to extend to the whole salt of ammonia or potash, but only to the alkali itself. If, for instance, sulphate of ammonia were the compound used in the experiments, the ammonia would be removed from solution, but the filtered liquid would contain sulphuric acid in abundance—not in the free or uncombined form, but united to lime; instead of sulphate of ammonia we should find sulphate of lime in the solution; and this result was obtained, whatever the acid of the salt experimented upon might be. It was found, moreover, that the process of filtration was by no means necessary; by the mere mixing of an alkaline solution with a proper quantity of soil, as by shaking them together in a bottle, and allowing the soil to subside, the same result was obtained. The action, therefore, was in no way referrable to any physical law brought into operation by the process of filtration.

It was also found that the combination between the soil and the alkaline substance was rapid, if not instantaneous, partaking therefore of the nature of the ordinary union between an acid and an alkali.

In the course of these experiments, several different soils were operated upon, and it was found that all soils capable of profitable cultivation possessed the property in question in a greater or less degree.

Pure sand, it was found, did not possess this property. The organic matter of the soil, it was proved, had nothing to do with it. The addition of carbonate of lime to a soil did not increase its absorptive power, and indeed it was found that a soil in which carbonate of lime did not exist possessed in a high degree the power of removing ammonia or potash from solution.

To what, then, is the power of soils to arrest ammonia, potash, magnesia, phosphoric acid, &c., owing? The above experiments lead to the conclusion that it is due to the *clay* which they contain. In the language of Prof. WAY, however,

"It still remained to be considered, whether the whole clay took any active part in these changes, or whether there existed in clay some chemical compound in small quantity to which the action was due. This question was to be decided by the extent to which clay was able to unite with ammonia, or other alkaline bases; and it soon became evident that the idea of the clay as a whole being the cause of the absorptive property, was inconsistent with all the ascertained laws of chemical combination."

After a series of experiments, Prof. WAY came to the conclusion that there is in clays a peculiar class of double silicates to which the absorptive properties of soils are due. He found that the double silicate of alumina and lime, or soda, whether found naturally in soils or produced artificially, would be decomposed when a salt of ammonia, or potash, &c., was mixed with it, the ammonia or potash taking the place of the lime or soda.

Prof. WAY's "discovery," then, is not that soils have "absorptive properties"—that has been long known—but that they absorb ammonia, potash, phosphoric acid, &c., by virtue of the double silicate of alumina and soda, or lime, &c., which they contain.

Soils are also found to have the power of absorbing ammonia, or rather *carbonate* of ammonia, from the air.

"It has long been known," says Prof. WAY, "that soils acquire fertility by exposure to the influence of the atmosphere—hence one of the uses of fallows. * * I find that clay is so greedy of ammonia, that if air, charged with carbonate of ammonia, so as to be highly pungent, is passed through a tube filled with small fragments of dry clay, *every particle of the gas is arrested.*"

This power of the soil to absorb ammonia is also due to the double silicates. But there is this remarkable difference, that while either the lime, soda, or potash silicate is capable of removing the ammonia from *solution*, the *lime* silicate alone has the power of absorbing it from the air.

It is on this fact, that the views of Prof. WAY, to which our correspondent refers, are based. Lime may act beneficially on many or most soils by converting the soda silicate into a lime silicate, or in other words converting a salt that will not absorb carbonate of ammonia from the air, into a salt that has this important property. There is no manure that has been so extensively used and with such general success as lime, and yet "who among us," says Prof. WAY, "can say that he perfectly understands the mode in which lime acts?" We are told that lime sweetens the soil, by neutralizing any acid character that it may possess; that it assists the decomposition of inert organic matters, and therefore increases the supply of vegetable food to plants; that it decomposes the remains of ancient rocks containing potash, soda, magnesia, &c., occurring in most soils, and that at the same time it liberates silica from these rocks; and lastly that lime is one of the substances found uniformly and in considerable quantity in the

ashes of plants, that therefore its application may be beneficial simply as furnishing a material indispensable to the substance of a plant.

These explanations are no doubt good as far as they go, but experience furnishes many facts which cannot be explained by any one or all of these suppositions. Lime, we all know, does much good on soils abounding in organic matter, and so it frequently does on soils almost destitute of it. It may liberate potash, soda, silica, &c., from clay soils, but the application of potash, soda and silica has little beneficial effect on the soil, and therefore we cannot account for the action of lime on the supposition that it renders the potash, soda, &c., of the soil available to plants. Furthermore, lime effects great good on soils abounding in salts of lime, and therefore it cannot be as a source of lime for the structure of the plant that it operates.

None of the existing theories, therefore, satisfactorily account for the action of lime. Prof. WAY's views are more consistent with the facts of practical experience; but they are confessedly hypothetical; and his more recent investigations do not confirm the idea that lime acts beneficially by converting the soda silicate into the lime silicate.

Thus, six soils were treated with lime water till they had absorbed from one and a half to two per cent. of their weight of lime. This, supposing the soil to be six inches deep, would be at the rate of about 300 bushels of lime per acre. The amount of ammonia in the soil was determined in the soil before liming, after liming, and then after being exposed to the fumes of carbonate ammonia till it had absorbed as much as it would. The following table exhibits the results:

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Ammonia in 1,000 grains of natural soil,	0.293	0.181	0.085	0.109	0.127	0.083
Ammonia in 1,000 grains of soil after liming,	0.169	0.102	0.040	0.050	.....	0.051
Ammonia in 1,000 grains of soil after liming and exposure to the vapor of ammonia,	2.226	2.666	3.297	1.076	3.265	1.827
Ammonia in 1,000 grains of soil after exposure to ammonia without liming,	1.998	2.557	3.286	1.097	2.615	2.028

No. 1. Surface soil of London clay.
No. 2. Same soil from 1½ to 2 feet below the surface.
No. 3. Same soil 3½ feet below the surface.
No. 4. Loam of tertiary drift 4 feet below the surface.
No. 5. Gault clay—surface soil.
No. 6. Gault clay, 4 feet below the surface.

It is evident that lime neither assisted nor interfered with the absorption of ammonia, and hence the beneficial effect of liming on such soils must be accounted for on some other supposition. This negative result, however, does not disprove the truth of Prof. WAY's hypothesis, for it may be that the silicate salt in the natural soils was that of lime and not that of soda. Indeed, the extent to which the natural soils absorbed ammonia—equal, in No. 3, to about 7,000 lbs. of ammonia per acre, equivalent to the quantity contained in 700 tons of barn-yard manure—shows this to have been the case.

The lime liberated one-half the ammonia contained in the soil.

"This result," says Prof. WAY, "is so nearly the same in all cases, that we are justified in believing it to be due to some special cause, and probably it arises from the existence of some compound silicates containing ammonia, of which lime under the circumstances can replace one-half—forming, for instance, a double silicate of alumina, with half lime and half ammonia—such compounds are not unusual or new to the chemist."

This loss of ammonia from a heavy dressing of lime is very great. A soil five inches deep weighs in round numbers 500 tons, or 1,000,000 lbs. The soil, No. 1, contained .0293 per cent. of ammonia, or in an acre, five inches deep, 293 lbs. After liming it contained .0169 per cent., or in an acre, five inches deep, 169 lbs. The loss by liming is 124 lbs. of ammonia per acre. This is equal to the quantity contained in 800 lbs. of good Peruvian guano, or 12½ tons of barn-yard manure.

In commenting on this great loss of ammonia from liming, Prof. WAY observes:

"Is it not possible, that for the profitable agricultural use, the ammonia of the soil is too lightly locked up in it? Can we suppose that the very powers of the soil to unite with and preserve the elements of manure are, however excellent a provision of nature, yet in some degree opposed to the growth of the abnormal crops which it is the business of the farmer to cultivate? There is no absolute reason why such should not be the case. A provision of nature must relate to natural circumstances; for instance, compounds of ammonia may be found in the soil capable of giving out to the agencies of water and air quite enough of ammonia for the growth of ordinary plants and the preservation of their species; but this supply may be totally inadequate to the necessities of man. * * * Now it is not impossible that the laws which preserve the supply of vegetable nutrition in the soil, are too stringent for the requirements of an unusual and excessive vegetation, such as the cultivator must promote."

"In the case of ammonia locked up in the soil, lime may be the remedy at the command of the farmer—his means of rendering immediately available stores of wealth, which can otherwise only slowly be brought into use."

"In this view, lime would well deserve the somewhat vague name that has been given it, namely, that of a 'stimulant;' for its application would be in some sort an application of ammonia, while its excessive application, by driving off ammonia, would lead to all the disastrous effects which are so justly attributed to it."

"I do not wish to push this assumption too far," says Prof. WAY, in conclusion, "but if there be any truth in it, it points out the importance of employing lime in small quantities at short intervals, rather than in large doses once in many years, [as is the general practice in England."]

THE PROFITS OF THE FARM SHOULD BE INVESTED IN IMPROVING THE FARM.—The *Homestead* says:

"We hold that no farmer can *afford* to invest his money off his own land until he has spent all the money that can be usefully spent in improvements thereon. When there are no more demands from the wasting manure, the useless swamp, the cold wet upland, the bush pasture, the dilapidated barn, the scantily furnished tool room, and the thousand other openings that allow profitable labor, he may begin to consider the case of Shingles, Tape, and the other candidates for his capital."

CHAPPED HANDS.—A good remedy for chapped hands is to wash them in water slightly acidulated with vinegar or lemon juice, or wash them in milk.

EDITORIAL CORRESPONDENCE FROM CANADA WEST.

PARIS, C. W., JANUARY, 1856.

WHEN I wrote my last from Hamilton, although I had traveled hundreds of miles in Canada West, and conversed with as many hundreds of intelligent Canada farmers, and had *learned* much that I did not before know of this country, and *unlearned* still more that I thought I knew, yet the country is so extensive, and settled by people of so many different countries, and so entirely dissimilar in character, that I find I have much yet to learn, before I become fully acquainted with the country or its people. When I last wrote, I had scarcely seen a German in Canada. Since that time I have traveled north of the pretty village of Woodstock, and west of "Stratford-on-the-Avon," where for miles in every direction, almost every settler is a German. But wherever I go, I see the same signs of prosperity. Abundant crops reward the even tolerably industrious farmer, and these crops bring so unusually high a price, that a smile of satisfaction is to be seen on every countenance. These now comparatively wealthy farmers relate their early toils and privations with the greatest satisfaction. For years they struggled in the forest, deprived of all the luxuries, and many of the necessaries of life. Their only means of raising a few dollars to pay taxes or interest on their land, was to leave their farms and go into the States, or the more cleared parts of Canada, and work during harvest, leaving their wives and children to take care of their own small crops. Having thus valiantly endured the hardships of frontier life, and conjured prosperity and independence, they have a right to rejoice over their well-filled barns and purses. May these old pioneers long live to enjoy the fruits of their labors, and may their souls enlarge with their means, until they find themselves surrounded with all the refinements and luxuries of life, and hearts to enjoy them. In too many cases, those who are by necessity deprived of the comforts of life in their earlier days, endure the same privations in after life from choice. In the one case, it may be a great virtue; in the other, it is meanness. Competence enables its possessor to enjoy innumerable blessings—education for his children, a comfortable home filled with articles of beauty and good taste, a good library, and tasteful garden, and time for reading and mental improvement are not the least of these blessings. We have seen too many *rich poor men* among the "well-to-do" farmers of Canada who are *wasting*, because they are *hoarding* instead of *using* their wealth.

Since my last I have heard more complaint of the *wheat-midge* and the *Hessian fly*. Some farmers I have conversed with have sustained serious losses. One gentleman, living in Dumfries, informed me that for several years his wheat crop had averaged forty bushels to the acre, but this year it did not reach fifteen, from these causes.

The *hay crop* in Western Canada was very much injured, and many say their crops were entirely destroyed by the season of rain that proved so injurious to the wheat of the Genesee Valley during harvest. In consequence of this scarcity of hay, it is selling at more than $20 per ton in the villages west of Hamilton, on the line of the Great Western Railway, and there is a great demand for straw-cutters. Some "Yankee" would make a good speculation by bringing a few hundred good straw-cutters to this part of Canada.

Potatoes sell higher here than in the States—about five shillings per bushel. This high price is partly occasioned by the rot, but principally from the fact that raising wheat appears to absorb almost the whole attention of farmers. We would urge our friends to plant potatoes in their orchards instead of wheat. They would be the gainers, even though half the crop should rot.

I think I spoke, in my last, of the scarcity of apples. As I travel farther west this scarcity is more apparent. I have not seen an apple for sale as far west as Woodstock, but an old friend at that place informed me he had bought a few bushels lately at $1.25 per bushel. In the town of Norwich, south of Woodstock, I am informed plenty of good fruit is raised, and a friend informs me that in the fall he has counted a hundred teams in a day, belonging to farmers of the towns north, all making their way to this fruit-growing town for their winter stock of apples. This town, I am informed, was originally settled by members of the Society of Friends from Pennsylvania, who with their usual foresight planted good orchards as soon as the land was cleared—and now are reaping the reward.

The spirit of speculation is rife here. The walls of every tavern are decorated with finely lithographed maps of unheard-of villages. Streets are laid out and named, and the lots contain from a *tenth* to a quarter of an acre, according to their nearness to the *business* of the place. Accompanying these maps, in many cases, are attractive show-bills, stating that on a certain day there will be an auction sale of the most desirable *business* property, and sites for rural residences. These sales are preceded by *ample refreshments*, furnished without cost by the owner of the property. Intoxicating liquors, we have reason to believe, compose the greater part of these "*ample refreshments*." In riding by stage from Stratford to Woodstock, I noticed a large piece of land that had apparently been cleared a year or two, but had not been fenced, and inquired why this land was not fenced and cultivated. The driver informed me that this was the village of *Shakspeare*, maps of which I had seen all over the country. About half a mile further on I came to a cluster of houses, with three taverns, (two of them, at least, miserably kept, as I had good reason to know,) and this was the center of the village. About four miles further south I came to the much-talked-of village of *Inkerman*. Here are found a log tavern, a brick tavern partly finished, and a blacksmith shop. There must be an end to this kind of speculation.

In what is called the *plains* here, or oak openings, there is a great scarcity of timber for rails, and they are purchased of farmers in the timbered districts for $20 per thousand. Farmers here, particularly in the town of Burford, are talking seriously of trying the *Osage Orange* for hedges. Those who undertake to raise a hedge to protect their fields, must not think of doing it in a hurry. It is a work of time, and must be done well to be of any service.

We will give an article on *Hedges* in season for spring planting.

J. V.

In 1847, out of 3,313,579 acres of land in Ireland, under grain-culture, 2,200,870 acres were oats—twice as many acres as of all the other kinds of grain together. The moist climate of Ireland is far better for oats than for any other grain crop.

NOTES BY S. W.

After reading Liebig's "Reply to his Reviewers," in the *Country Gentleman*, I looked in vain for those editorial remarks his sophistical recriminations on his opponents so deservedly merited. It is therefore with much satisfaction that I now find in the last Genesee Farmer, from the pen of Joseph Harris, one of the late editors of the *Country Gentleman*, the beginning of a truly able analytical criticism of Liebig's last "Reply to his Reviewers;" as translated by S. W. Johnson for the *Country Gentleman*.

How strange that an astute, brilliant writer, one who has really attained the highest elevation in chemical science, should thus descend to sophistry and special pleading, and the most unscrupulous garbling of experimental facts, in order to discredit the results of those long repeated practical experiments, which go to disprove *in extenso* the truth of his own promulgated theory? It is still more strange that the learned Baron should in this controversy be found so far inconsistent with himself and his theories, as to accuse Mr Lawes of being unable to show "by any fact," that the unammoniated soil could receive a natural supply of ammonia, sufficient for the growth of seventeen bushels of wheat to the acre, when he himself persistently contends that the atmosphere, dew and rains, will supply all the nitrogen required by plants, if the soil contains a supply of the inorganic or mineral elements, to form the ashes of the plants to be grown on it.

Mr. Lawes has proved by more than seven years consecutive experiments, that when the soil was well supplied with the mineral elements of plants, and even with Liebig's patent manure, no more than seventeen bushels of wheat could be grown on an acre. Whereas by the addition of ammonia salts alone, the yield per acre has been doubled. But I must refer the reader to Mr. Harris' review of this controversy, and for the analysis of Liebig's arguments, as contained in the Genesee Farmer of September, October, 1855, and January current. I congratulate the farmers of Western New York, that Mr. H. is now the Agricultural Editor of the Genesee Farmer at Rochester. While an editor of the *Rural New-Yorker* and the *Country Gentleman*, he did more to expose the empiricism of mere theorists, and the commercial frauds in special manures, superphosphates, guano, &c., than any other agricultural writer of the day. He has the advantage of being a practical farmer's son, but what is better, he has a large vocation for his calling, and has profited much by several years' practice on the experimental farm of Mr. Lawes at Rothamstead, where he had the benefit of the learned Dr. Gilbert's scientific instruction.

I like the review in the last Farmer of the "management of the premium farms of New York." There is so much farming, even in the Empire State, altogether below criticism, that it is refreshing to have much to commend, with the little that is exceptionable, in the details of manuring and tillage of a premium farm. Seneca county has been fortunate in State premium farms, but I trust that this circumstance will not weigh with the intelligent State Society Committee unfavorably to giving the premium to the farm of Mr. Gove at Ovid, if it deserves it. It is truly a pattern farm; a matchless soil treated and cultivated and improved in a masterly manner.

Jas. Stevenson, a farmer here, has this fall laid a mile, (320 rods,) of three inch, horse shoe tile drain, including a four inch tile main drain, in a five acre meadow, at a cost of 25 cents a rod, his own labor plowing out the beginning of the drains not included. The cost of the tile was $10 the 1000 pieces, 14 inches long each. At 12½ cents a rod, the digger made two dollars a day; he dug the drain 2½ feet deep on the average, and laid the tile on the hard clay bottom. Mr. S. had two inch pipe laid for his cellar drain; this fall he had water in the cellar, and on opening the drain he found from two to four frogs in every piece of pipe. These reptiles had evidently got into good winter quarters.

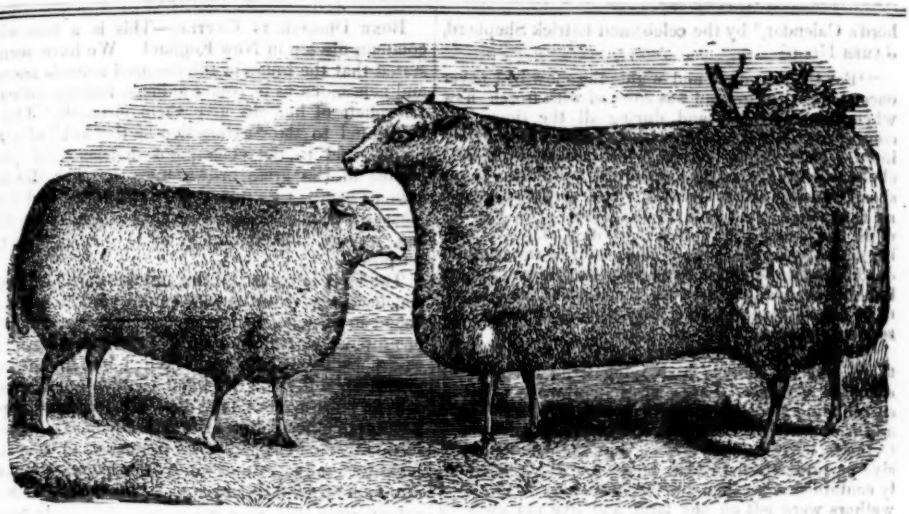
Fermented manure for root crops has been often recommended. I should as soon recommend Mexican guano in preference to Peruvian. To get the largest yield and the largest beets, trench in long unfermented manure late in the fall, or as early in the spring as the soil is dry, and the growing crop will have the full benefit of all that ammonia and carbonic acid which the fermented manure has generally lost. In our hot season this fermentation in the trench is *pari passu* with the growth and requirements of the plant; at least it is so in heavy soils. S. W.—*Waterloo, Jan. 11th*, 1856.

Coloring Butter with Carrots.—The use of coloring matter, as annato in cheese, to give it a rich yellow shade which is never natural, is extensively practiced, and meets with general approval; but when a similar process is proposed for butter, great objections are raised against it. Samples improperly or too highly colored probably originated this prejudice. If, without any injury to the quality, we can give winter butter the rich yellow hue of the best June or autumn, the sense of sight will be gratified, and, through the imagination, also the palate, for it requires a practiced taste to distinguish between them. But we think the flavor as well as the appearance is improved by the process. No one will object to a half bushel of carrots a day fed to each cow, and the desired result will thus be obtained; but as the supply is usually too limited, we must forego this free use, and economise the coloring principle. A single large *long orange carrot* may be grated into a quart of milk, and this, strained through a thick cloth, may be placed in the churn with cream sufficient for ten pounds of butter. The good part of the color of the carrot will go into the butter, imparting a rich yellow hue, while the bad part goes into the buttermilk, making it reddish brown. A good grater is made for this purpose by punching holes in a sheet of tin, and nailing its edges to a board, the middle being curved upwards. This grater is also very convenient for preparing horseradish. Two or more carrots can be used if one does not color the butter high enough, but caution is necessary not to use too many. Those who have employed carrots in this way will continue them, and to those who have not, we say, give them a trial.—*Homestead.*

Wheat in California.—F. G. Appleton, of San José, Santa Clara county, California, writes to the Patent Office as follows:

"In February, 1852, I sowed ten acres with Chilian bald wheat, and had an average yield of 60 bushels per acre, 60 pounds to the bushel. In January to last of March, 1853, I also sowed eighty acres, and had an average yield of 47 bushels. In January to the middle of March, 1854, I again sowed one hundred and fifty acres, and had an average yield of 42 bushels."

This beats even the "Genesee country."



CHEVIOT RAM AND EWE.

THE SHEEP OF GREAT BRITAIN.

CHAPTER II.

THE CHEVIOT BREED, OR LONG SHEEP.

The Cheviots, as their name implies, had their origin in the Cheviot hills in Northumberland. They occupy almost all the pastoral hills of the south of Scotland, especially from the center of the country to the eastward. They are localized in some of the best parts of the Grampian mountains, and are to be found as far north as the hills of Caithness and Sutherland. "They may therefore," says Stephens, "be regarded as a hardy race," though not equal in this respect to the Black-faced breed.

In the white face and want of horns, the Cheviots resemble the Leicester. The wool, which extends over the whole body, is short, thick set, and of fine quality, fit for the manufacture of inferior broadcloths. The body is long, hence they are sometimes called the *long* sheep, in contradistinction to the *short* sheep or Black-faced breed. They are full behind the shoulder, a long, straight back, round in the rib, and well proportioned in the quarter; the legs are clean and small-boned, and the pelt thin; face longer than that of the Leicester, muzzle not so fine, ears larger and not set so high and handsomely upon the top of the head, and there is a rugosity of the skin across the bridge of the nose. The eye lively and prominent, the countenance open and pleasing. In disposition, suspicious with an inclination to rove, rendering them somewhat unkindly to feed, at least at an early age, and as compared with the Leicester.

Nevertheless, "all authorities concur," says Morell, "in stating that the Cheviot breed possesses considerable fattening properties, and can endure much hardship, both from starvation and cold." It is fit for the butcher when three years old, and at two years old when crossed with the Leicester. The wethers average from 12 to 18 lbs. per quarter, but some have been exhibited at the Highland cattle shows, weighing 30 and 32 lbs. per quarter.

Sir John Sinclair's description of the original Cheviot as it was in 1792, will be read with interest:

"Perhaps there is no part of the whole island where at first sight a fine wooled breed of sheep is less to be expected than among the Cheviot hills. Many parts of the sheep-walks consist of nothing but peat bogs and deep morasses. During winter the hills are covered with snow for two, three, and sometimes four months, and they have an ample proportion of bad weather during other seasons of the year, and yet a sheep is to be found that will thrive even in the wildest part of it. Their shape is excellent, and their fore quarter, in particular, is distinguished by such justness of proportion, as to be equal in weight to the hind one. Their limbs are of a length to fit them for traveling, and enable them to pass over bogs and snows, through which a shorter-legged animal could not penetrate. They have a closer fleece than the Tweeddale and Leicester breeds, which keeps them warmer in cold weather, and prevents either rain or snow from incommoding them. Their fleece is shorter, and consequently more portable over mountainous pastures. They are excellent snow travelers, and are accustomed to procure their food by scraping the snow off the ground with their feet, even when the top is hardened by frost. They have never any other food, except when it is proposed to fatten them, than the grass and natural hay produced on their own hills. Their weight when fat, is from 17 lbs. to 20 lbs. per quarter; and when fed on heath and kept to a proper age, their meat is fully equal in flavor to any that the highlands can produce."

Since then, the Cheviot has been extensively crossed with the Leicester, with a decided improvement, so far as early maturity and fattening are concerned, but with a corresponding reduction of hardness of constitution and fineness of wool. It is said, however, that the cross between the Leicester and Cheviot is a "better endurer of cold, though less patient of hunger," than the cross between the Leicester and Black Faced sheep.

The Cheviot has been crossed with the South Down, but it is said with indifferent success, as the produce could not endure the rigors of mountain pasturage in winter.

Some idea of the terrible storms to which the Black-Faced and Cheviot sheep are exposed, may be obtained from the following extracts from the Scot-

herd's Calendar," by the celebrated Ettrick Shepherd, JAMES HOGG:

"'For thirteen days and nights the snowdrift never once abated; the ground was covered with frozen snow when it commenced, and during all the time of its continuance, the sheep never broke fast. The cold was intense to a degree never before remembered, and about the fifth and sixth days of the storm, the young sheep began to fall into a sleepy and torpid state, and all that were so affected in the evening, died in the night. About the ninth and tenth days, the shepherds began to build up huge semicircular walls of their dead, in order to afford some shelter to the remainder; but shelter availed little, for the want of food began to be felt so severely, that they were frequently seen tearing one another's wool.

"'When the storm abated on the fourteenth day, there was on many a high lying farm, not a living sheep to be seen. Large misshapen walls of dead, surrounding a small prostrate flock, likewise all dead and frozen stiff in their layers, were all that remained to the forlorn shepherd and his master. In the extensive pastoral district of Eskdale-muir, which previously contained more than 20,000 sheep, only forty young wethers were left on one farm, and five old ewes on another.'"

Another writer says:

"The sheep seem possessed of an instinctive foresight of the approach of these storms, and will hurry to a place for protection, when the shepherd himself sees not a cloud, and 'dreams not of the wind.' 'I had left,' says one of these mountain shepherds, 'my sheep under their accustomed shelter, and where I had never failed to find them safe and comfortable in the morning, and I was plodding my weary way homeward; but before distance and darkness closed them from my sight for the night, I looked back to see if they had given over work, (digging for their food from under the snow,) when I was surprised to see them on their march down hill towards a plantation which would afford securer shelter, and to which I had been accustomed to drive them when I feared the coming tempest. They had fallen into rows, pacing one after another until they reached the plantation, and there was nothing to suggest to my mind the return of a drift, but their movement and their bleating. They passed through the plantation, and took that side of it which would afford them a safe shelter from the south-west hurricanes. It, however, happened that, although their instinct had admonished them that a tempest was impending, it had not taught them from what quarter that tempest would come, and it soon began to blow from the north-east, from which they had no defence. When I came to them in the morning, the wreath was higher than the dyke, and was leaning over upon the trees. Some of the strongest sheep had kept treading down the snow as it gathered around them, and were on the top of the wreath; but many of them further back were quite immersed in the snow. However, by means of probing and digging, I got them all out, except two that had been crushed by the weight of the snow.'"

We believe there have been some Cheviot sheep imported into Canada. We should be glad to hear how they have succeeded. There can be little doubt that they would prove a valuable acquisition on many a hilly farm in the north-eastern portions of this country and the British Provinces.

Our engraving represents a Cheviot ram and ewe, the property of Mr. JAMES BRYDON, of Moodlaw, Langholm, Scotland, which obtained prizes at the Highland Societies Meeting, at Edinburgh.

BONE DISEASE IN CATTLE.—This is a somewhat common disease in New England. We have seen it stated that the bones of the diseased animals are soft and gelatinous, as in young animals, lacking sufficient phosphate of lime to give them strength. This is attributed to the "exhaustion of the soil" of phosphates, and to the consequent deficiency of phosphates in the grass grown upon it. The diseased animals manifest a craving after old bones, and bone-meal is recommended as a remedy, and is sold in Boston, we are told, in considerable quantity for this purpose.

The facts in regard to this disease warrant no such conclusions in regard to its cause. If the soil is deficient in phosphate of lime—it cannot be *exhausted*, or no plant would grow on it—there is no evidence that phosphate of lime will be deficient in the plants grown upon it, while we know that an application of soluble phosphate of lime does not increase the proportion of phosphates in the turnip plant, although it greatly increases the crop. A small, immature plant generally contains more ash—more phosphates—than a large, fully developed plant; and, while we cannot state that such is the case, it is more reasonable to suppose that a poor soil would produce the former rather than the latter.

"But," says an objector, "bone-meal effects a cure, and is not this evidence that the animals need phosphates?" Let us see. The *Boston Cultivator* says:

At a late discussion among the members of the Hillsborough (N. H.) Agricultural Society, Mr. BURNS, of Milford, stated that he considered ground oyster shells the best remedy for the bone disease in cattle. He gave a handful to a cow two or three times a week.

Here is evidence that a cure can be effected without the aid of phosphates, for the oyster shells are composed of *carbonate*, not *phosphate* of lime, as in the case of bones.

DOMESTICATING THE BUFFALO.—A correspondent of the *Country Gentleman*, who hails from Estun, Indian Territory, west of Arkansas, says:

"The Creek Indians sometimes drive out cows to the Buffalo range, and there kill their calves and supply their places with young buffalo. These on their return grow up apparently as tame as the other young cattle of the drove with which they range. Though the males when full grown, are sometimes vicious and dangerous, pursuing those who chance to offend them.

"I can not learn that any full-blood buffalo have ever been raised from this half-tamed stock. But there have been numerous instances of a cross between the buffalo bull and common cows.

"Various attempts have been made to break and work these 'black-horned cattle,' as the Indians call the buffalo, but with very indifferent success. For although of strength inferior only to Barnum's team of elephants, they are so intractable and unruly as to be 'more plague than profit.'

"Two years since a drove of some twenty 'three year old' buffalo were driven east from the vicinity of Fort Gibson. It was said their destination was one of the large stock farms of Kentucky, where an effort was to be made to raise them. Of their further history I am uninformed, but I hope the effort may prove successful. For the white man and his iron horse are fast invading the last retreat of the buffalo and his hunter, and unless they give up their roving habits and wild life, and become cultivators of the soil, both will soon remain only in the history of the past."

Good Cows.—Mr. E. M. Shepard, of Norfolk, St. Lawrence county, N. Y., furnishes the *Country Gentleman* the following statement of the products of his dairy the past year:

"We have kept an account of butter made this season—have milked five cows—two came in June 1st, two July 1st, and one September 10th, but milked her during the summer up to coming in. From those cows we have made, up to Nov. 15th, and it would, perhaps, be no more than right to say five cows from June 15, to November 15—152 days:

Butter, 795 lbs., at 21 cents per lb.	$166 95
Cheese, 135 lbs. at 10 cents	13 50
Calves, raised 6, sold 3 at $15, and 3 on hand	90 00
Allowing 100 lbs. of pork to 1 cow would be 500, at $10 per cwt.	50 00
And then say 2 quarts of milk per day for family use	6 08
	$326 53

Or $65.30 per cow, without counting any milk sold or butter made in winter."

It is not stated, but we believe the cows are of the Ayrshire breed.

Nathaniel Baker tells the *Granite Farmer* that he has a "native" cow which in seven and a half months gave 2559 quarts of milk; that "each seven quarts of milk makes seventeen ounces of butter, which is equal to 388 pounds, worth 25 cents per pound—equal to $97."

Points of a good Milch Cow.—The *London Farmer's Magazine* gives the following characteristics of a good milch cow:

"The head should be small, but rather long and narrow at the muzzle; the eye small, but quick and lively; the horns small, clear, bended, and their roots at considerable distance from each other; neck long and slender, and tapering towards the head, with little loose skin hanging below; shoulders thin; hind-quarters large and capacious; back straight, broad behind, and joints of the chine rather loose and open; carcass deep, and the pelvis capacious, and well over the hips, with fleshy buttocks; tail long and small; legs small and short, with firm joints; udder capacious, broad, and square, stretching forward, and neither fleshy, low hung nor loose; the milk veins large and prominent; teats short, pointing outwards, and at considerable distance from each other; skin thin and loose; hair soft and woolly; the head, bones, horns, and all parts of least value, small, and the general figure compact and well proportioned."

Milch Cows in Winter.—The *American Farmer* has an article on this subject, from which we extract the following sentences:

"It is essential to the secretion of milk, that milch cows should be comfortably housed through the winter months; their apartments should be well ventilated, moderately warm; their stalls should be well bedded and kept clean. Their food should be succulent and nutritious; besides long provender, they should receive messes of slop, composed of chopped roots of some kind, cut straw, meal of some kind or bran mixed with cut straw, fodder or hay of some kind. The idea of expecting a milch cow to give any considerable portion of milk in winter when fed upon straw alone, and that scantily doled out to her, is, to say the least, a fanciful conceit—one that will never be realized. Milch cows should be salted twice or thrice a week, and have access to a good, warm, well-protected yard, in good mild weather."

Animals should be kept Warm.—We have been contending for years that, within certain limits, warmth is equivalent to food. Farmers cannot be reminded of this too often. They require line upon line upon this subject. Prof. Nash says:

"An animal eats; the carbon of his food enters the blood, and with it passes through the lungs. He breathes; the oxygen of the air enters the lungs, combines with the carbon of the food, and forms carbonic acid gas by a process similar to combustion. This combination creates animal heat, which warms the blood, and courses with it through the whole body, to keep all the parts warm. In a very cold stall the carbon of the food is all consumed for fuel; in one that is comfortable, a part of it is left to promote animal growth. In the latter case the growth pays for the food; in the former there is no pay."

Carrots and Oats.—This winter we have tried this feed on our horse, and are fully convinced that it is the cheapest and best feed we ever used. We give her about half a peck of carrots with two quarts of oats in the morning, and she has done quite as well as when we gave her six quarts of oats per day.—*Oxford Dem.*

Very likely; but she probably eat more hay. Carrots are a cheap and nutritious food for horses—every farmer should raise enough to give his horses a peck a day in the winter, and especially in the early part of the spring—but it is foolish to contend that a bushel of carrots is equal to a bushel of oats. Such exaggerated statements are calculated to retard rather than enhance the general cultivation of carrots.

Apples for Cows.—A correspondent of the *New England Farmer* says:

"I live in a country where in times past apples fed to cows were said to dry up their milk. I think that may have been the case when fed in large quantities. I have been feeding a cow some four or five quarts a day, regularly, and never had one give so much or so rich milk before. As apples will not generally keep through the winter in cellars, they may be spread out on the barn floor, and frozen, then piled up and covered with hay or straw, where they will keep, and may be used as wanted by pouring water upon them.

Mange in Cattle.—The *Boston Cultivator* says: "The disorder termed the mange arises from the excitement of the skin, probably brought on by disarrangement of the organs of digestion in consequence of poverty engendered by hunger and want of shelter. After these are supplied, a wash made of gunpowder and water—charcoal, nitre, and sulphur—will be found a valuable application. Mange is an infectious disorder; remove therefore the sick beast from the rest of the herd."

Suffolk Hogs in Ohio.—A gentleman from Ohio, who has kept, and we believe still keeps, Suffolk hogs, expressed, in a recent conversation with us, his conviction that they are too small and too tender for Northern Ohio. A larger, coarser, and hardier breed, he thinks, is more profitable. The Suffolks are favorites with us, and we were sorry to hear it honestly affirmed, by one whose opinion is entitled to consideration, that the introduction of this breed had been, and would be, a serious injury to the farmers of Ohio. Is it so?

ON FEEDING CATTLE.

MESSRS. EDITORS:—All farmers know the advantage gained by the proper management and housing of cattle. They know, too, the benefit derived from cutting their food, such as straw or stalks. Coarse timothy hay, cut and mixed with straw, will cause the cattle to eat their mess with a hearty relish. A good way for preparing the mess is to place the cut stalks in a tub or tight box, and pour boiling water upon them; then sprinkle a little salt over them, and put a little bran or meal on top to keep in the steam. Feed, when cold, in quantities not less than a bushel at a meal. The stalks should be cut in pieces an inch or an inch and a half in length. If longer than that, cattle are apt to leave them.

Cattle, young stock especially, are injured by cold wind and storms, and should be protected by warm sheds, if nothing more. Another object of importance is to have water in the barn-yard or in its immediate vicinity. How often we see cattle turned to water in the morning, and after going forty or fifty rods, drink their fill of cold water and stand shivering for hours in the cold. These chills are an injury to cattle, and should if possible be avoided.

Although for want of convenience it is not practicable for every farmer to feed and care for his stock as he would wish, yet there are many who might, by a proper course of feeding, prevent their cattle from coming out spring-poor. W. N. C., *Flushing, Mich.*

CORN AND COB MEAL FOR FOWLS.—The *Maine Farmer* says:

"We find it good economy to grind the corn and cobs together fine for poultry. They will eat it just as well and as readily as if the cobs were not there. In this way you turn your cobs into eggs and chickens. We have this winter fed such meal out to hens, geese, and ducks. We put it into a shoal trough, made by tacking together boards four inches wide, like a V, and gave it to them dry. It all disappears before them, and does them good. Hens and other poultry, you know, like to have some grass to eat, and they do better if fed during the winter with some substitute for grass, than if fed upon nothing but dry grain. The corn cob is somewhat like grass in its chemical ingredients. To these, cabbage, ruta bagas, and apples, cut fine, may be added, all of which they will eat readily and thrive upon, if they have enough, even in midwinter."

Cob meal a substitute for grass! Rather a novel idea that. If "enough" "cabbage, ruta bagas, and apples" are given, is there any necessity for any other substitute for grass? It is generally considered unnecessary to grind grain for fowls, and we are satisfied that there is not nourishment sufficient in the cobs to pay for the grinding of the cob and *corn*. That is to say, the 7½ lbs. of cob in a bushel of ears of corn is not worth three cents—the price usually charged for grinding a bushel of ears of corn. At this rate, it costs $8 per ton to grind cobs, and few, we think, will contend that they are worth any such a price. Where it is necessary to grind the corn, however, the cost of grinding the cobs can not be estimated at more than $4 per ton, at which price, when hay is worth $15 or $20 per ton, cobs may be worth grinding. We make these remarks principally for the purpose of calling out the experience of our correspondents.

WINTER SHELTER FOR FARM ANIMALS.

THE *Valley Farmer*, an excellent agricultural paper published at St. Louis, says:

"The advantages of protecting farm stock from the rain, sleet, and chilling blasts of winter, in stables and sheds, are not so well understood and so highly appreciated in the West, as among the more prosperous class of Eastern farmers.

"The custom of suffering cattle to run at large in all kinds of weather during winter, without some place where they can find shelter, to say the least of it, shows a great want of economy. Cattle well protected from the cold and storms of winter, will enter upon the grass in spring, in good condition, while those exposed, if brought out alive, will appear mere skeletons, and will lose half the summer in regaining the flesh they have lost during winter.

"A large, expensive Pennsylvania barn is not required in our western climate for the protection of stock, but very simple and cheap sheds may be erected, with materials within the reach of every farmer, which will answer all the necessary purposes. This may be done by setting two rows of posts six feet high, with forked tops, and ten or twelve feet apart. In the forks lay poles on the line of the posts; across these, other poles or old rails may be laid, forming a roof, upon which a quantity of straw may be piled sufficiently high to turn off the rain. Around the north, or exposed sides, old rails or slabs from the sawmill may be placed on end; thus securing cheap and comfortable protection to stock during the severe storms of rain, snow and winds of the winter season. These sheds will last several years, and the saving each winter will be equal to many times the cost."

A HILL-SIDE COTTAGE.

WE are indebted to that excellent work, Village and Farm Cottages, by CLEAVELAND & BACKUS BROTHERS, for the accompanying beautiful design for a hill-side cottage.

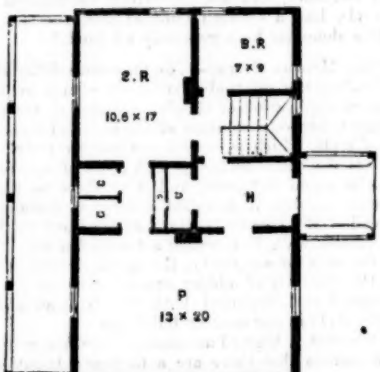
It is intended for a situation below the road on which it fronts. Gentle swells by some valley side, or on the outer margin of a plain, often furnish sites well adapted to this plan. As to basements, the author says:

"Basements, as they are usually made, more or less beneath the surface of the ground, are our aversion. Too often they are damp, almost always ill-ventilated. If city houses *must* have them, they should rank, and generally do rank in the class of necessary *evils*. The man's sanity might almost be doubted who should put a basement to his house in the country. But it often happens that the form of surface and nature of the ground, are such as to allow the two sides or ends of a house to be of different depths, thus admitting entrance from without, on two floors. In some families, such a division of the house divides also its duties and labors to great advantage. To give such a story its highest value and avoid the needless use of stairs, it should contain all the rooms and appliances needed for the labor of the household. The apartments should be entirely above ground, well lighted and ventilated. The ground outside should be lower than the floor, and should descend from the house, not only for drainage, but to prevent the settling within of the denser gases and vapors. The floor should be elevated somewhat above the ground, and the side walls should be "furred off" with wooden strips to which the laths are to be nailed, thus forming an air chamber between the outside stone and the inside plastering. The cellar, back of the rooms, should be separated from them by an air-

A HILL-SIDE COTTAGE.

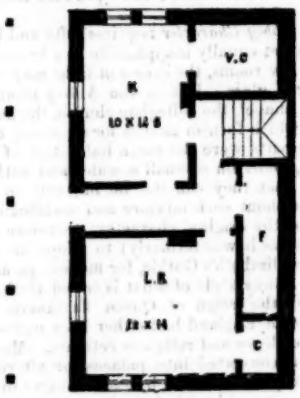
tight partition, and well ventilated, to prevent the intrusion into the house of its damp or impure air. A due regard to health demands the use of every precaution to secure dryness, to retain warmth, and to exclude those insidious vapors, charged with disease and death, which are wont to gather in dark and low places.

"Such a story should be a real story, not a low, mean, back place, but a respectable portion of the house. Let the door be screened if necessary, and let the whole be made pleasing by the judicious disposition of flower and vine, and shrub and tree. Houses thus built cannot easily be regular in form and arrangement. Nor is it desirable that they should be. In placing such a structure, the surface, rather than boundary of the ground, should be consulted. The house must be fitted to the declivity, even though it do not conform exactly to the street."



PLAN OF PRINCIPAL FLOOR.

INTERNAL ARRANGEMENT.—"The windows opening on the veranda and on the small balcony at the end, are long and are hung on hinges. The basement has a fuel cellar, F, a vegetable cellar, V, C, a closet, C, and the important rooms L, R, and K. In the attic plan there are four bedrooms and as many closets. These rooms are ten feet high in the highest part, and but two feet and nine inches at the side; a result which is due to the lower pitched roof. The stairs are of a compact form and occupy but little space. The position of the upper flight determines that of the lower, and makes necessary the recess in the stone wall as shown by the basement plan."



BASEMENT PLAN.

"The position, on the whole, most eligible for this house is one in which its shaded side should face the west, and its parlor windows look out upon the south. The road might wind round its southern end, with a sufficient space between for shrubbery and lawn, while the garden might stretch down toward the vale."

"Height of basement, 7 feet. Main story, 8 feet 6 inches. Cost, $1,375."

If any of our readers should wish to build after this design, they can obtain further information, and working designs, by addressing CLEAVELAND & BACKUS BROTHERS, Architects, 41 Wall street, New York.

ARCHITECTURE—STYLES AND CHANGES.

In answer to a correspondent in the January number, we gave some remarks on the different styles of architectural ornaments, and promised to continue the subject of architecture in the present number. In fulfilling our promise we can not perhaps do better than to quote another chapter from *Repton's Landscape Gardening and Architecture.*

Fig. 1. Imaginary composition, shewing, in the background, the castellated Gothic style of architecture; next, the ecclesiastic Gothic; then, the mixed Gothic; next, the Grecian, or classical style; and, lastly, Indian architecture.

In this country we have very few purely Gothic, or even Grecian buildings. A glance at the above engraving will show that they are scarcely suited to human habitations, much less for private residences. Still, all buildings of architectural pretensions partake somewhat of the character of one or the other, and it is well that the leading features of each should be understood.

"The Gothic Style.—The *Castle Character* requires massive walls, with very small windows, if any are allowed to appear externally. The correct imitation of this, in modern times, must produce the effect of a prison.

"The *Abbey Character* requires lofty and large apertures, almost equally inapplicable to a house, although, in some few rooms, the excess of light may be subdued by colored glass. But in the Abbey Character it is only the chapel, the collegiate church, the hall, and the library, which furnish models for a palace; all the subordinate parts were the mean habitation of monks, or students, built on so small a scale, and with such low ceilings, that they can not be imitated in a modern palace, without such mixture and modification as tend to destroy the original character; therefore it is necessary now (as it was formerly) to adopt the *mixed style* of Queen Elizabeth's Gothic, for modern palaces, if they must be in any style of what is called *Gothic.*

"Until the reign of Queen Elizabeth, the large buildings in England had either been castles for security, or colleges and religious retreats. Many of these had been converted into palaces, or altered to adapt them to royal residences, by such changes in their original forms, as, at length, introduced that mixed character called *Queen Elizabeth's*, or *House Gothic.*

"Yet, a mixed style is generally imperfect: the mind is not easily reconciled to the combination of forms which it has been used to consider distinct, and at variance with each other: it feels an incongruity of character, like an anachronism in the confusion of dates: it is like uniting, in one object, infancy with old age, life with death, or things present with things past.

"The Grecian Style.—Under this character are included all buildings in England, for which models have been furnished from Greece, from Italy, from Syria, and from other countries, unmixed with the Gothic style; for in all these countries some intermixture of style and dates, in what is called the Grecian character, may be discovered: and we are apt to consider, as good specimens, those buildings in which the greatest simplicity prevails, or, in other words those that are most free from mixture. Simplicity is not less necessary in the Gothic than in the Grecian style; yet it creates great difficulty in its application to both, if no mixture of dates is to be allowed in the respective styles of each. Thus, the English antiquary will discover, and perhaps be offended at, the mixture of Saxon, Norman, and the several dates of subsequent buildings called Gothic; but the man of taste will discover beauty in the combination of different forms in one great pile, or he must turn with disgust from every cathedral and abbey in the kingdom. In like manner, the traveler and connoisseur in Grecian antiquities, will not only object to more than one of the five orders in the same buildings, but will detect the intermixture of even the minutest parts in detail; while the man of taste will discover beauty and grace in combination of forms, for which there is not authority in the early, and, therefore, most simple edifices of those countries. It is by such combinations only, that the Grecian style can be made applicable to the purposes of modern habitation.

"The best models of pure and simple Grecian architecture, were temples, many without a roof, and all without windows or chimneys. Such models might be imitated in our churches, or public edifices; but houses built from such models would become inconvenient, in proportion as this external simplicity is preserved. For this reason, Inigo Jones, and our early architects in the Grecian style, took their models from buildings of later date (chiefly Roman), where the different floors are marked by different orders placed one over another.

"As the taste for Grecian architecture became more correct, and, by the works of Stuart and others, the more simple original models became better known in England, various attempts have been made to adopt it in modern houses; but a palace, or even a moderate sized residence, can not be entirely surrounded by a peristyle, like a Grecian temple; and, therefore, the portico alone has been generally adopted.*

"The Modern Style.—The numerous difficulties in reconciling the internal convenience of a house to the external application of Grecian columns of any order, at length banished columns altogether, and introduced a new style, which is, strictly, of no character. This consists of a plain building, with rows of square windows at equal distances; and if to these be added a Grecian cornice, it is called a *Grecian building:* if, instead of the cornice, certain notches are cut in the top of the wall, it is called a *Gothic building.* Thus has the rage for simplicity, the dread of mixing dates, and the difficulty of adding ornament to utility, alike corrupted and exploded both the Grecian and the Gothic style in our modern buildings.

"Without a bigoted attachment to *either*, every one must confess that there are a thousand beauties and

* The difficulty of adapting any order of columns to the windows of a house, is evident from the portico being sometimes confined to the ground floor only, sometimes extended two, or even three floors, and sometimes raised on a basement of arches, unknown to the Grecian character. A more classic expedient has been devised by the ingenious author of the *Antiquities of Greece Magna*, in his designs for Harford and Downham colleges; but such lofty portion of windows, though allowable in a public building, would be inapplicable to the purposes of a private house.

graces in *each*, which deserve our admiration, although they can not, without violence, be made subservient to modern residences.

"In this inquiry, no mention has yet been made of the difference of climate, and the influence it may be supposed to have on the different styles, because grace and beauty of form, in ornament and decorations, may be considered, without always annexing ideas of utility; if they can be blended, it is the perfection of art in every province; and, in the choice and adaptation of new forms to new uses, consists the genius of the artist.

"But there is another consideration of greater importance, which relates to the *material* of which the building is constructed.

"The *eye* will not be pleased with *that* to which the *mind* can not be reconciled: we must be satisfied that the construction is safe, and that the material is equal to its office. The resistance of iron is greater than that of stone; but if iron columns be made to represent stone, they will appear too light and weak. On the contrary, if stone columns be made to resemble metal, they will appear too heavy and massive. And if either of those materials be made to imitate wood, not only the relative strength of each must be considered, but also the *Principles of Construction*, which are totally different in the Grecian and Gothic styles.*

Fig. 2. Sketch exhibiting the principles of pressure in Grecian, Gothic, and Indian architecture.

"Of Grecian Constuction.—According to the law of gravitation, all matter at rest keeps its place by its own weight, and is only to be removed by superior force acting in a different direction. A perpendicular rock, or a solid upright wall, will preserve the same position so long as its substance endures. On this principle of perpendicular pressure all Grecian architecture is founded. Hence have arisen the relative proportions and intercolumniations in the different orders, from the heaviest Doric to the most graceful Corinthian, the distances being regulated by the strength of the parts supporting and supported.

"Although it is probable that the first buildings were of wood, and that rude trees suggested the proportions of the Doric order, yet, the origin of Grecian architecture was, doubtless, derived from one stone laid flat upon another, and the aperture, or void, between two upright stones, was covered by a third placed across them: thus the width of the opening was limited by the length of the cross stone; consequently, this mode of structure required large blocks of stone, when that material was used [see fig. 3].

"The difficulty of procuring such large blocks as were required for this mode of construction, suggested the idea of producing wide apertures by a different expedient; and this introduced the arch.

Fig. 3. Sketch exhibiting the progress of Grecian architecture, from the columns and beams formed of the trunks of trees, with the bark on, to the Doric order, with fluted shafts, &c.

"Of Gothic Construction.—In every arch, whether a segment of a circle, an ellipsis, or in the pointed arches, called Gothic, there is a great lateral pressure. This constitutes the leading principle of construction in Gothic architecture, which depends on its abuttals [see fig. 2]. An arch may sometimes abut against a rock, as in bridges; or against a pier of masonry, as in castles, &c.; but, in light Gothic structures, the abuttals consist of buttresses to counteract the lateral pressure; and where such buttresses are not sufficiently heavy, additional weight is used under the various forms of pinnacles, or finials, which have often been mistaken for mere ornaments, of no use in the construction; and these are sometimes placed at a distance, when they are connected by what are called flying buttresses, like those at Henry the Seventh's chapel [see fig. 4].

"Of Indian Construction.—Under the name of *Indian Architecture*, may be included Hindustan, Gentoo, Chinese, or Turkish; which latter is a mixture of the other three. But this construction is distinct from the Gothic, in having little or no lateral pressure; and from the Grecian, in having a different mode of apply-

Fig. 4. Sketch exhibiting the principle of forming abutments for Gothic arches, as generally adopted in ecclesiastical buildings.

* This remark is every day confirmed by the too slender groins of Gothic arches, to imitate stone, in plaster, or cast iron, and the too slender columns of Grecian architecture in wood, painted to imitate stone and marble.

ing the perpendicular pressure; for although, at the first sight, we might be led to suppose the arches constructed on a center, like those of Europe, yet, on a closer examination, they will be found to consist of horizontal strata, supported by what is technically called '*corbelling out*,' or placing the materials in such a position that the aperture may be larger at the bottom than at the top, by each stratum of stone overhanging the other [see fig. 2]. From the specimens discovered in the Indian excavations, there is no doubt but the original idea was taken from those subterraneous caves or grottos.

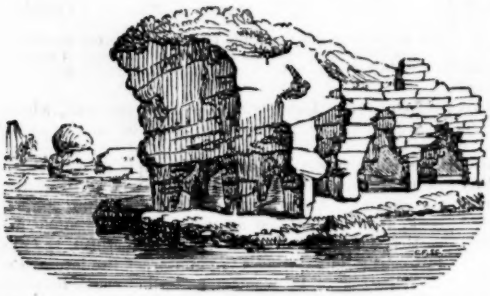


Fig. 5. Imaginary sketch, exhibiting the principle of perpendicular pressure in the artificial vaults made in the native rock in India, and also in the arches of buildings in the Indian style.

"The people who formed these awful wonders of antiquity, instead of erecting buildings on the surface of the ground, began their operations by cutting away the foundation of a rock, to obtain room below, without endangering the superstructure; and thus, by degrees, the Indian architecture seems to have grown from the rudest excavations of Troglodite savages, to the most beautiful forms discovered in the temples of Salsetta, Elora, and Elephantis.

"When these natural subterraneous vaults were imitated above ground, in buildings of later date, the same construction prevailed; and, therefore, both in the arches and domes of the Indian style, we observe the same principle of perpendicular pressure [see fig. 5].

"Application of Indian Architecture.—Having already shown the difficulty of adapting either the Grecian or Gothic styles to the character of an English residence, this newly discovered style of architecture seems to present a new expedient for the purpose, in the forms made known to this country by the accurate designs of Mr. Thomas Daniell, and other artists, which have opened new sources of grace and beauty.

"To the materials of wood and stone we have lately added that of cast-iron, unknown in former times, either in Grecian or Gothic architecture, and which is peculiarly adapted to some light parts of the Indian style.

"In Grecian architecture, the artist is confined to five (or, rather, only to three) different orders of columns, so restricted in their relative proportions that they are seldom used externally, with good effect, in modern houses, and are generally found too bulky for internal use. Indian architecture presents an endless variety of forms and proportions of pillars, from the ponderous supports of the cavern, to the light, airy shafts which enrich their corridors, or support their verandas. This alone would justify the attempt to adapt a style, untried, for the purpose to which other styles have been found inapplicable or inadequate.

"It is difficult for an artist at once to divest himself of forms he has long studied. This will account for the confusion of Grecian and Gothic in the works of John of Padua, Inigo Jones, and others, about the same date, which occasioned that mixture of style condemned in after-times for the reasons already assigned. The same thing may be observed in the first introduction of Gothic, mixed with the Saxon and Norman which preceded it: and the same will, doubtless, happen in many instances, during the introductory application of Indian architecture to English uses, while a false taste will both admire and condemn, without any true standard, the various forms of novelty.

"If I might humbly venture to suggest an opinion on the subject, I should recommend the use only of such Indian forms, or proportions, as bear the least resemblance to those either of the Grecian or Gothic style, with which they are liable to be compared. If the pillars resemble Grecian columns [compare fig. 6 with fig. 7], or if the apertures resemble Gothic arches, they will offend, by seeming to be incorrect specimens of well-known forms, and create a mixed style, as disgusting to the classic observer as the mixture in Queen Elizabeth's Gothic. But if, from the best models of Indian structures, such parts only be selected as can not be compared with any known style of English buildings, even those whom novelty can not delight, will have little

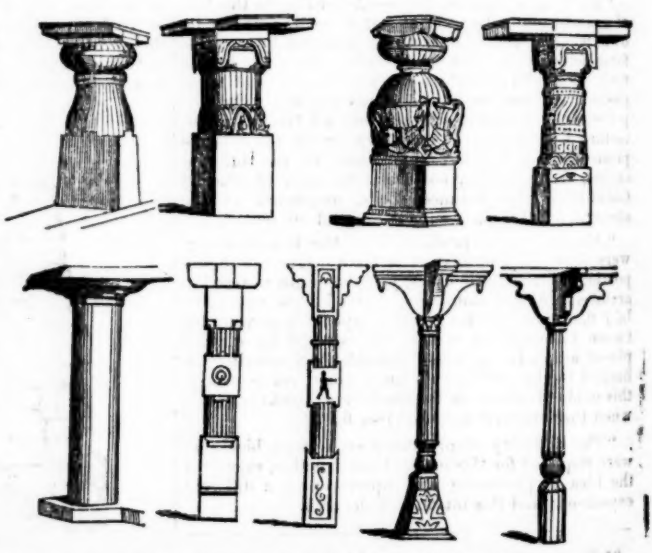


Fig. 6. From an endless variety of columns used in Hindoo architecture, the above few examples are inserted, that their relative proportions may be compared or contrasted with those of the orders to which Grecian architecture is necessarily confined.

Fig. 7. Specimens of columns of the different orders of Grecian architecture, given with a view of facilitating the comparison between them and the Hindoo buildings.

cause to regret the introduction of new beauties. Without strictly copying either the mosques, or the mausoleums, or the *serais*, or the hill-forts, or the excavations of the east, the most varied and graceful forms should be selected, with such combinations, or even occasional deviations and improvement, as the general character and principles of construction will admit; for which purpose the specimens [see figs. 6 and 7] are submitted for consideration as general hints, rather than as finished designs."

FACTS WORTH REMEMBERING.

Corn Meal should never be ground very fine. It injures the richness of it.

Timber cut in the spring and exposed to the weather *with the bark on*, decays much sooner than that cut *in the fall*.

If the small end of posts are placed in the ground they will last much longer than if placed with the butt ends downwards.

Wounds in Cattle are quickly cured by washing several times a day with a mixture of the yolk of eggs and spirits of turpentine.

Salt is necessary to the health of horses, cattle, and sheep, and they should be supplied with it at regular stated intervals throughout all seasons of the year.

Poisonous gas (carbonic acid) in wells may be temporarily removed by dashing down a few pails of cold water. Then they may be cleaned out safely.

At the head of one of the graves in "Old St. Mary's," Md., there stands a cedar slab, which, as the inscription indicates, was placed there in 1717, and is still perfectly sound.

It is said to be a first rate way to treat balky horses, by hitching a good steady horse and team behind them. They will soon forget their peculiar propensities and be glad for a chance to move the other way.

Plaster (sulphate of lime) when in solution is decomposed by carbonate of ammonia—carbonate of lime and sulphate of ammonia, which is not volatile, being formed. In the dry state, no decomposition takes place.

The great rule in relation to animals holds perfect in its application to vegetables; breed only from the best animals; *defects and imperfections have always a tendency to propagate themselves, and are always, in a greater or less degree, transmitted.*

Durability of Posts.—In a recent discussion, one member said he had used burr-oak posts 7 years, and thought they would last 6 or 7 years longer. White-oak will last, according to another member, 10 or 12 years; locust 20 years or more. Another stated that cherry rotted in 8 or 9 years; white-oak in 10 or 14 years; black-walnut in 9 or 10 years; locust 20 years. Much depends, it was affirmed, on the character of the soil; moist land causing a sooner decay than dry.

To Thaw Frozen Pumps.—Some throw in salt, some heat iron rods, &c., but an incomparably better way is to place a small lead pipe within the pump, and pour in hot water by means of a funnel. The pipe should be as long as the frozen portion; and conducting the boiling water right on the ice, removes it with astonishing rapidity, say one foot per minute, the pipe settling as rapidly. Where pumps are liable to freeze, it is well to have a lead pipe always at hand.

Feeding Cattle.—Cattle standing in cold muddy yards, exposed to the weather, consume about twice as much as those in sheltered stables kept clean and littered, and free from the accumulations of manure.

To prevent rats from burrowing into cellars, either make a good water-lime floor, or else build the wall on a close-jointed flagging, laid some inches below the bottom of the cellar, and projecting three or four inches beyond the wall. The rat burrows down next to the wall, reaches the flagging, and cannot pass through it, never in any case working back to the edge.

Systems of Rotation, says the *Illustrated Annual Register*, must vary according to the nature of the soil in different regions of country, the amount and kind of manure at command, the cleanness of the land, the nature of the market, and the proper distribution of labor. One of the best farmers we have known, had his farm laid out in equal fields, and adopted the following rotation:

1st year — Wheat after clover.
2d " Corn, potatoes and ruta bagas, with all the manure made that year.
3d " Barley.
4th " Wheat, seeded with clover.
5th " Clover pastured.

A piece of low ground was kept for meadow, and was occasionally top-dressed, and rarely broken up and re-seeded. A rougher portion of the farm was occupied with summer-fallow, wheat, clover, and grass for pasture. This farm was a strong fertile soil;—poorer land would need a longer season in grass, which would admit a larger number of live stock, and as a consequence produce a greater amount of manure.

The following may be adopted, with variations according to circumstances:

THREE COURSE SYSTEM.

1. Corn and roots, well manured.
2. Wheat.
3. Clover—one or more years, according to the fertility and amount of manure at hand.

FOUR COURSE SYSTEM.

1. Corn and roots, with all the manure.
2. Barley, or peas, or both.
3. Wheat.
4. Clover—one or more years.

Oats are always a severe crop, and an excellent farmer of our acquaintance who adopts the above, never permits oats to grow on good wheat land, but confines the crop to the more moist portions of his farm, adapted only to this and to meadow and pasture.

Horticultural Department.

THE ORCHARD.

The Ground for an orchard should be a good dry soil, well drained, and thoroughly and deeply cultivated. Every farmer who knows how to prepare his ground for a good crop of corn or wheat, will need no directions on this point. *Thirty* feet each way is as near as apples should be planted. In most cases, we should prefer five feet more each way. When the ground has been well prepared, planting is a simple matter. Dig a pretty large hole for each tree, and after examining the roots, and cutting off all that are bruised or damaged in any way, fill up the hole with fine good earth so as to leave the tree only an inch or so deeper in the ground than it was when growing in the nursery. The *collar*, or part where the trunk and roots unite, should be only slightly covered with earth. After the hole you have made is sufficiently filled with fine earth, place the tree in it, spread the roots in their natural position, fill in the earth a little at a time, and pack it in carefully between the roots. If, after the hole is nearly filled, some water is thrown in, it will aid in settling the earth firmly around the roots.

Even when a tree has been removed from the nursery with great care, a large portion of the finer roots are unavoidably destroyed in the removal; consequently there are not sufficient roots to sustain the top, and unless the branches are pruned so as to make up for the loss of roots and thus keep up a balance between the branches and the roots, the tree will languish, and perhaps die. It will therefore be of the greatest advantage to prune pretty closely after planting.

After your orchard is planted, cover the earth around the trees, two feet or more each way, with coarse manure, chip manure, or any convenient material that will keep the earth cool and moist, and prevent the growth of weeds.

These directions are so simple that many will be disposed to think their publication quite unnecessary. When it is remembered, however, that not one half of the trees taken from nurseries ever live to bear fruit because these simple rules are not heeded, their importance will be at once apparent. Within the last two months, we have seen hundreds and thousands of trees dead and dying from carelessness in planting. We have seen a whole orchard of young trees planted three feet deep; and, with a miserable attempt at economy, we have seen orchards planted in swamps, because the ground would not grow anything else.

Apples for the Orchard.—We have frequently, of late, been asked what kinds of apples the farmer should plant; and many we know have made a mistake in planting kinds unsuited to their situation and circumstances.

Summer Apples ripen at the farmers' busy season; and they soon decay. If you live near a town or large village, where you can carry your fruit to market conveniently, and be always sure of obtaining a sale for it, it might be well to raise summer apples for market; but if you are not so situated—if you live far from a good market—you had better only raise summer apples enough to supply the wants of your family, and those neighbors who are too improvident to raise their own. The *Red Astracan, Yellow Harvest*, &c., are good summer varieties.

Fall Apples keep longer than Summer Apples, and consequently are better for the farmer to raise in this respect. Most of the fall apples will keep through October. The *Fall Pippin, St. Lawrence, Autumn Strawberry, Porter*, and *Hawley*, are good fall sorts.

Winter Apples, however, are the kinds that the farmer should raise for a crop—the long-keeping sorts. These should be picked carefully by hand, and before barreling should be carefully assorted. When cared for in this way, they can be kept until the state of the market or other things may make it prudent for the farmer to sell. *Baldwin, R. I. Greening, Spitzenburgh, Northern Spy, Roxbury Russet* are good, long-keeping winter sorts.

Farmers too often make a mistake in raising fruit they are compelled to sell in a few days after gathering, no matter what may be the state of the market.

Soil and Treatment.—Different kinds of fruit require somewhat different soils, as well as different treatment.

The *Cherry* should not be very highly manured, especially the Heart and Bigarreau classes, as high manuring causes a growth so rapid as to endanger bursting of the bark upon the body and main branches, and also increases the danger of winter-killing.

The *Peach*, also, although good for nothing in a turf, or if deprived of good cultivation and frequent stirring of the soil, is not benefited by any excess of barn-yard manure. A simple crop of wheat, oats, or other sown crop, will almost ruin a Peach orchard; while potatoes, beans, roots, and even corn will not injure the trees, especially if not planted too close to them, and accompanied with light manure.

Dwarf Pears, on the contrary, being worked upon Quince stocks, require high cultivation and liberal manuring. The Quince roots being fibrous, and not disposed to go deep or far for nourishment, must have a liberal supply near by, to enable them to meet the great demand which the Pear in its productive state makes upon the roots. Soils with a considerable proportion of clay, if well cultivated, are consequently well adapted for these trees.

The *Plum*, also, seems to prefer a stiff soil, and will bear liberal manuring.

The *Pear* upon its own roots, that is, when worked upon Pear stock, is quite easily suited as to soil and manure; but if highly manured, its rampant, succulent growth makes it an easy prey to the fire-blight if attacked. Deep and thorough stirring of the soil is generally sufficient for them, without much manure, but in poor soils manure will be necessary.

The *Apple* is perhaps the most tractable of all the fruits; growing upon all soils, and struggling along under great difficulties; but it will show care and

manuring as soon as any, and should be liberally manured when the soil is not already rich.

Grape Vines also delight in being well manured, and will not give the best satisfaction without a dry bottom, and abundance of rich soil.

Where the circumstances permit one to choose among various soils, we should prefer to plant

Pears upon the most clayey portions.

Dwarf Pears on Quince stocks upon clay; and if any trees are to go in cool and damp situations, plant the Dwarf Pears.

Cherries, only upon dry, warm situations, sandy, gravelly, stony or loamy.

Peaches do best on sandy loam, gravelly or stony land, and even upon quite poor sand.

Plums do best on clayey loam.

Quinces do best on rich clayey loam.

Grapes, and all the berries and small fruit, do best on a strong loam, dry and rich.

PRUNING.—Although this operation can be performed at any time during winter, yet we consider the beginning of March the most favorable season, particularly for peaches and apricots. All gardening should be done with neatness, but above all things, let your pruning be neatly performed. We have seen trees "*pruned*" that looked as though cattle had been "*browsing*" among them. When you wish to remove a shoot, do so by means of a clean sloping cut, at the back of a bud. As soon as the bud pushes, this wound is readily healed. To do this well, however, the operator must have a keen knife. "Those things," says THOMPSON, of the London Horticultural Society, "which some men call pruning knives, blunt and notched, a sort of cross between a file and a handsaw, used for grubbing up weeds, drawing nails and trimming roots, are never seen in the hands of a man who understands his business or attends to it. To a gardener, his pruning knife is as much an object of solicitude as his razor. Indeed, of the two, he would rather hack his chin than his plants."

If trees are properly pruned from the beginning, a pruning knife will perform all the necessary thinning out, &c., annually, and the butchering system so much practiced, of cutting off large limbs, will be avoided, and the trees will not only present a more pleasing appearance, but will produce a finer crop of fruit.

Grape Vines that have not already been pruned, should be attended to first; and nothing will repay a judicious pruning better. The crop will be larger, and the flavor of the grape much improved. Currants and Gooseberries should be pruned rather close, in order to get perfect fruit. Deciduous ornamental trees, shrubs and roses should now be pruned. Ornamental trees only require the decaying and irregular branches to be cut away. With few exceptions, deciduous shrubs and roses require annual pruning.

MICE.—In some parts of the country, mice are very troublesome in winter—eating the bark of the tree near the ground, and thus killing it. A gentleman in Stratford, Canada West, where the mice are very troublesome, informs us that he lost many trees by these animals, until he made an effort to save them, by painting the trunks from the ground a few inches up with a composition of tar and tallow—two parts tallow and one part tar. This he puts on the trees just as winter sets in, and since pursuing this course he has not lost a tree from this cause. If the grass is kept from around the trees, mice are seldom troublesome.

THE OSAGE ORANGE.

As a hedge plant in this country, the Maclura, (*Maclura Aurantiaca*,) or, as it is more commonly called, the Osage Orange, is constantly becoming a more general favorite. There are many other native plants, no doubt, which in particular localities, and with proper treatment, may be grown into equally as good a hedge as the one now under consideration; but for the various soils and climates of the United States, the Osage Orange has proved itself eminently superior to any other one plant which has ever been tried for the purpose. It appears to thrive equally well in the Eastern, Southern, Middle and Western States; in the southern part of Canada West, it has also been found to succeed. In the more northern portions of the Eastern and Western States and Canada, it cannot withstand the severity of the winters, but as a general rule, wherever the Peach may be grown the Osage Orange will be found to be able to endure the cold. In this vicinity, the young shoots are killed back annually from four to six inches, which, however, proves rather beneficial than otherwise. To form a good hedge of this, as well as of any other plant, it will be necessary to give it constant attention; no one need flatter himself that by merely setting straight rows of plants along his lines, that in a few years his premises will be surrounded by an impenetrable barrier; but will find, as very many already have found to their sorrow and chagrin, that they have only been producing a living monument of their indolence or ignorance. In growing a hedge, everything from the commencement must "be done decently and in order," and in this, as in many other operations, "the more haste the less speed."

If one is anxious to procure a hedge in the shortest time, he can obtain the plants one or two years old ready to be set, from parties in different sections of the country, who raise them expressly for sale; but if he is willing to wait longer, he should procure the seed from some seedsman on whom he can rely for their good quality, and grow the plants himself. If the seeds should be obtained in the fall or early winter, they may be mixed with moist sand or loam in a box with a few holes in the bottom, and placed out of doors, exposed to the weather, until ready to plant in the spring, only taking care that after they have thawed out in the spring that they do not get dry before they are sowed. But if they have remained dry until planting time, they may then be placed in a vessel, and water heated to a temperature of about 100°, or as warm as the hand will bear, poured upon them, and allowed to remain in some warm place about a week, renewing the water every day; at the end of this time the water should be poured off, and the seeds covered with a cloth kept constantly moist. They should not be more than two or three inches in thickness in this situation, as, if they are in a large body, fermentation will be liable to take place and destroy their vitality. In this condition they may remain another week, when, if the seed is good, they will have commenced to sprout, but if this does not occur so soon, water, to supply the loss by evaporation, must occasionally be added until signs of germination appear, when they may be immediately planted.

The seed bed should be dry, rich, well worked, thoroughly pulverized, and freshly dug at the time of planting. Sow the seeds, like peas, in rows, about

fifteen inches apart; or, if a large quantity is to be raised, plant double rows about a foot apart to admit the hoe between, and allow three feet between the double rows for a cultivator. The best time to plant is as early in the season as the ground becomes warm, usually in this locality during the first part of the month of May. As soon as the plants are up a couple of inches, commence working among them, and cultivate them once every two or three weeks or oftener if necessary during the season. All weeds growing near the plants which the hoe or cultivator do not disturb must be pulled out by hand. Frequent stirring of the soil and keeping it perfectly clean are indispensable operations in raising good plants. One year old plants, if well grown, will do to transplant to the hedge-row, but in most cases it will be found beneficial in the end to allow them another year in the seed bed before removal; the second year, the only attention required is clean culture, as before. In the fall, before they are to be transplanted, the most convenient way to manage them is to dig them, tie them into bundles of a hundred or more, and heel them in or bury them about two-thirds their depth in a slanting position in a dry place, where they may remain until they are finally to be disposed of.

Where the hedge is to be set, a strip of land six or eight feet wide should be plowed up and worked the previous season, or planted with some root or hoed crop: potatoes, peas and beans are among the best. When the buds begin to swell in the spring, the land should be deeply plowed and dragged fine, and will then be in a proper condition to receive the plants. Stakes may now be driven firmly in range along the whole line, and a strong cord from one hundred and fifty to two hundred feet long be stretched quite tight by the side of them; a stone laid on every rod or two of its length will keep it close to the ground and prevent its moving while working by it. The plants to be prepared for setting should have their tops and roots shortened to a uniform length of about six or eight inches each; with a common garden trowel they may now be set along the line six inches apart, and at least an inch deeper than they previously stood. The soil should be pressed firmly about the roots, which may be most expeditiously done by inserting the trowel two or three inches from the plant and crowding it towards it. In this manner the whole length of hedge may be set. If, in the course of a couple of weeks, any plants should be found not to start, they should be removed and others put in their place. As soon as weeds or grass begin to show, run a light plow with one horse on each side of the row, turning the furrows towards the row on both sides; and as soon as they again appear, plow again, turning the furrows in the opposite direction, and thus continue to cultivate the land on each side until the season shall have so far advanced that the weeds and grass no longer start. The plowing should be continued each season for at least three years. Late in the fall of the first year, before the ground freezes, a furrow should be turned up against the row on each side, to prevent the roots being thrown out by the frost. In the spring of the second year, as soon as the buds begin to start, all vacancies should again be supplied, and the tops of the plants cut down within three inches of the ground with pruning shears, which are manufactured and sold expressly for this purpose. Some time in June, before the shoots have completed their growth, they should again be cut back to about nine or ten inches in height—which will be all the attention they will require this year. The next year, as before, early in the spring, cut back again within six inches of the previous cutting, leaving the plants now about fifteen inches in height; in June again repeat the operation, cutting six inches above where they were cut in the spring. By this time the row of plants has assumed somewhat the appearance of a hedge. In its different condition it will require a slightly different treatment. As impenetrability, and especially thickness at the base, are the principal objects to be secured, our attention hereafter in pruning must be directed particularly to the acquisition of this end. A form approaching the pyramidal is, according to the greatest experience, the best into which a hedge may be clipped. The lower part of the hedge should be clipped some time during the winter, while the plants are in a dormant state, and the upper portions left to be pruned until that time in the spring when it is making its most vigorous growth; this treatment will have a tendency to dwarf the plants and make them thick at the base. Five or six years will suffice to produce a hedge of the Osage Orange, that will in point of utility entirely supply the place of primitive, unsightly rail and board fences, and will last for ages with little expense to its owners, besides adding a new and beautiful charm to our country landscape.

WESTERN N. Y. FRUIT GROWERS' ASSOCIATION.

The Second Annual Meeting of the Western New York Fruit Growers' Association was held in this city, January 8th and 9th. The attendance was large, and the show of winter fruits the best we have ever seen in this country.

The following questions were proposed for discussion:

1st. Can the cultivation of fruits for market on an extensive scale, be recommended to the farmers of Western New York?

2d. If so, what kind or class of fruits, as Apples, Pears, Peaches, &c., are likely to be most advantageous or remunerative, under all the circumstances?

3d. How extensively is it safe to embark in the cultivation of Winter Pears?

4th. Is it advisable to plant Pears on Quince for extensive market orchards?

P. Barry opened the discussion.

The question "Can the cultivation of fruits for market on an extensive scale be recommended to the farmers and land-owners of Western New York?" he would answer in the affirmative, without the slightest hesitation. The circumstances of Western New York are now very different from those of a few years ago. Railroads now place us within a few hours of New York city. They also put the Western States in easy communication with Eastern markets. Hence wheat growers are turning their attention to the cheap lands of the West, justly considering it poor policy to compete in grain growing on land worth $100 per acre, with as good soil costing but $2 or $3. The farmer should try some other crop—one which his advantages of locality, soil and climate, will render remunerative. This Association would recommend the cultivation of Fruits, and why? Because the position, soil and climate of Western New York is all right. There is no better place in the world. The soil is proverbially fine,

and especially suitable for the raising of fruits. It is no longer a question as to its adaptedness, as fruit growing has been carried on for years on an extensive scale, and with the most profitable results. All the fruits succeed here remarkably well. Only one such cold season as last year has occurred in fifteen years, and its like may never be known again.

Look at the geographical features of our country. West of us lies Lake Erie, stretching 260 miles further west, and north of us is Ontario, with an area of over six thousand miles. These great bodies of water, not being so quickly penetrated by the cold as the earth, give us a more even temperature, and a more gradual change from warm to cold, and from cold to warm. And then look at our central lakes right in our midst, which never freeze over. Think of what an influence these bodies of water exercise on the climate of our country. Can we be better situated than we are in regard to a market? Here we have the New York Central and New York and Erie roads running through our midst, and no matter where a man is located, he can reach New York with its more than half a million consumers, Philadelphia, Boston, and other large cities, in a day. From all these reasons, he would repeat, he had no hesitation whatever in saying that the farmers of Western New York ought to turn their attention to fruit growing on an extensive scale. He would say to her farmers, curtail the amount of your lands under cultivation, and pay more attention to your fruit trees, for you will find it more profitable to work less ground and make the best use of it, than to monopolize a great extent of farm land with a less paying crop.

H. C. Smith, of Rochester, said farmers in Western New York had got only about five or six shillings (75 cents) per barrel for their apples this year, and he would ask whether the same ground planted with potatoes would not be more profitable.

P. Barry hoped some other speaker would reply to this question. Farmers take no pains to sell their fruits. If they would make arrangements before hand, and pick them in proper season, they would have no difficulty in obtaining a remunerative price for them.

Dr. E. W. Sylvester, of Lyons, Wayne Co., said if people do not cultivate and take care of their orchards, they cannot expect good fruit from them, or fruit that will bring a good price. He had picked from one of his Spitzenburgh trees this year, five barrels. He had forty trees to the acre, giving two hundred barrels of apples, which can be sold at one dollar a barrel and barrels found. His man picked from eight to ten barrels per day, and put them up, and he calculated the profits of one acre at $175. This is above the true estimate, as a general thing, but orchards may be brought to this point by good cultivation. He knew orchards, the owners of which, year before last, received eight and nine shillings per barrel, and made $100 to the acre, without any extra cultivation. The owner of a farm of 183 acres, on which there was an orchard of about five acres, said year before last, he had received $510 for his apples. The last year he got about four hundred barrels, but had not yet sold them. Here is an orchard of five aches averaging $100 to the acre, and he (Dr. S.) doubted whether he received more than $1,000 from the balance of his farm.

S. H. Ainsworth, of West Bloomfield, Ontario Co., said one of his neighbors had three acres of orchard that he had taken some little pains with in the last few years, from which last year he sold the fruit for $525. He thinks that another year he will receive from $700 to $1,000 from that orchard, which consists mainly of Northern Spys and Roxbury Russets. Last year was the seventh since they were grafted. Another of his neighbors sold his apples year before last, for $125, from one acre of ground. The year before, he received $112, and the last year $75. The apples were sold in home markets. All the orchards in his section could be made to yield in like manner, as the ground on which these stand is no better than the average.

Arch. Stone, of Hinmanville, Oswego Co., said in his section of the country they had had no market for fruits, and no apples worth marketing, until within a few years. Now they had a better market, and that encourages the growing of better fruits. The Roxbury Russet is their best winter apple, but a bushel will bring more in the spring than a barrel in the fall. The Baldwin he should think was best adapted to their soil and climate. He knew one tree that two years ago produced twenty-eight bushels, which sold for about $40. Last year there was in the neighborhood of $150,000 brought into the county for fruit sent out. Their Agricultural Committees estimated one acre of orchard as equal in value to twelve in other crops, but he thought the figures large enough at five to one.

L. C. Smith, of Livonia, Livingston Co., said if there were two sides to this question, we had heard but one as yet. If it was a fact that we of the portion of country that raises the famous Genesee wheat have come to a point that we must give up that business and turn our attention to the raising of fruit, he wanted to know it, and to hear it fully established.

L. B. Langworthy, of Greece, thought apples would pay at five shillings per barrel in a decently cultivated orchard, but much larger profits can be made. A gentleman of his acquaintance had sent some twenty thousand bushels of apples to England in a year, and at a very great profit. He (Mr. L.) had sent the Newtown Pippin to the West Indies and made well of it, and therefore he thought we may decide that apples can be transported. He had known the Virgalieu pear to sell in New York at $18 per barrel. If properly cultivated, there is no fruit as fair and as sound as that of Western New York, and it will ever command a ready sale, and take the preference in any market in the world.

H. E. Hooker, of Brighton, had been asked in one of the questions, whether it is advisable to plant Pears on Quince stocks. He supposed there were none there who had had sufficient experience on this point to be able to judge, still he thought we might arrive at something like a conclusion when we throw all the little experience we have had together, and compare results and consider causes. He was in favor of plenty of room and light among trees. By planting 680 pear trees on an acre, the hardy sorts will produce in the neighborhood of a bushel, more or less. These 680 bushels, at the price fine pears command in the autumn, $4 a bushel, give us $2,720 from one acre of ground! Half that number of trees, and at $2 a bushel, give us $680. Dwarf pears, such as White Doyenne, Louise Bonne de Jersey, Duchesse d'Angouleme, Bartlett, and a few other select varieties, may be made to produce this when five years old. In reference to the prices here mentioned as not likely to be realized for winter pears: 340 bushels Easter Buerre, at 150 pears to the bushel—which is few enough, and they have to be large ones with which 150 will fill a bushel—makes 51,000 pears to the acre. These sold at ten cents each—and in New York they sell for a shilling and eighteen pence—gives us $5,100 for a single acre!

S. H. Ainsworth said that the profit of wheat in this section is about ten dollars per acre. Those who have been raising apples in good orchards will average at least fifty dollars a year above all expenses. Of pear orchards we have but very few in our county. One is that of Mr. Chapin, of Canandaigua, which had been set nine years. Six years after being set out, he sent some fruit to New York, and obtained $8 a barrel for it. The next year he had thirty barrels of fine pears from his three acres. For those he obtained $15 a

barrel, making $450. The year before last he had fifty barrels, which he sold in New York for from $18 to $20 a barrel—making nearly a thousand dollars. This last year his crop was partly a failure, which he thinks was owing to planting corn in his orchard, and close up to the trees. When his pears were nearly grown they dropped off without ripening, and he lost nearly all. It was a pretty good crop of corn, but worth little in comparison to the pears he would have had.

A Virgalieu tree from 60 to 70 years of age stands on the old Judge Howell farm near Onondaga. That tree for 40 years in succession has borne every year, and for the last 20 years has averaged not less than three bushels a season, which sold for $3 a bushel. A gentleman of Onondaga county sold from three trees $137 worth of pears Another gentleman in Onondaga has three Virgalieu trees. He has sold their product for $60 a year for several years back, and has been offered $50 for the fruit on the trees before picking. The soil is loose, with a heavy clay subsoil. They are all pear stocks. These trees have had no extra attention. Those trees of Judge Howell's have had scarcely any attention for a number of years. If these estimates hold good in other cases—and he knew no reason why they should not, in any good soil—then the cultivation of pears will pay the farmers of Western New York, *thirty times as much as the raising of wheat.*

P. Barry said, in opening the discussion, he had overlooked a matter of considerable importance. That is, we are here in the northern limits of the fine fruit growing region, and the consequence is, that our winter fruits are preserved better than in any other section. In New Jersey, Pennsylvania and Ohio, their winter fruits become fall fruits, and will not keep in winter equal to those grown in colder sections. Now, we have here on the table winter pears that you can not find anywhere else in near so great perfection. This is one thing which should be borne in mind by our fruit growers. Some say that these warm climates will always have the advantage of us in competition, but in this respect they have no chance whatever.

In regard to the distance apart trees should be planted, L. Burtis, of Rochester, said that he did not agree with those gentlemen who consider twenty-five feet too nigh for apple trees. He had traveled through every county in the State, and through a large portion of several other fruit growing States, and where he had seen trees growing close together, he had always found them loaded with fruit, while he had also found many orchards with trees thirty to fifty feet apart, with little or no fruit. He concluded therefore, that by setting trees close they protect each other from the wind and storms, and are consequently in a better condition for bearing and sustaining a heavy crop. He would plant trees twenty feet apart. They would then fully protect each other, and can be cultivated as well as if further apart.

L. B. Langworthy believed the theory was true that the roots spread as far as the branches do, and therefore his opinion was that we plant our trees too nigh together. Thirty-three feet is the general rule, but he had always held that forty feet is better than a less distance; then you can have crops of some kind without injuring the trees. Apples are like all other crops, if they are crowded too much they must be reduced, either in size or quantity.

L. Colby, of Nunda, had been cultivating pears for about thirty years, and had been able to make standards bear as soon as those on quince. By transplanting them three times, and each time clipping the roots, we cause the usually few and long roots to branch out, thus hastening their bearing. He had a Seckel tree four or five feet high that bore 63 perfect pears the first year after setting. It bore some the first year. He found that the quince stock injures the flavor, and renders the tree more liable to blight.

John M. Mattison, of Tompkins Co., related his success with the King apple, of which he had sold nearly 100 bushels for $2.50 per barrel. This season he had ten trees from which he picked 105 bushels! Three trees which had been seven years grafted produced in that time 51 bushels. Its great size was the only objection fruit dealers had to this apple. He thought pears would thrive better on pear than on quince stocks.

H. E. Hooker was sorry to see the comparative merits of the pear and quince stock left in just the shape it now stood. He never had seen on pear stocks specimens of pears exhibit so high a degree of fineness as those on quince.

H. C. White, of Buffalo, thought the cultivation of apples should be mainly recommended by this Society, as they require less skill and attention than any other fruit. Farmers generally could not cultivate pears with profit, with their present knowledge and habits. He thought more attention should be given to the Isabella grape, which he was certain would be made remunerative—if it would not pay in the market it would on the table. He hoped the cultivation of fruits would be impressed on the attention of the farmers of this section. Farmers should not expect winter apples to bear a remunerative price if sold in September; but if kept until a proper season they would be profitable.

The following list of fruits were recommended for general cultivation in Western New York:

Selected Pears.—*Bartlett, Louise Bonne de Jersey, Virgalieu,* (or *White Doyenne,*) *Lawrence, Vicar of Winkfield, Glout Morceau, Easter Buerre, Sheldon,* and *Flemish Beauty.*

Apples.—*King,* (it was proposed to add *of Tompkins County,* as several spurious varieties were in cultivation, some of which were described by members present as much inferior to the Tompkins Co. King, a variety stated to have come originally from New Jersey but never distributed till grafted, where it now prevails;) *Rhode Island Greening, Northern Spy, Baldwin, Gravenstein,* and *Fall Pippin.*

Fruit in Illinois.—The *Prairie Farmer* states that around Chicago the thermometer ranged from 24° to 32° below zero, and says:

"We have just examined our peach trees, and find the *fruit buds dead;* but this is not the worst of it—*the new wood is dead;* and it is to be feared that most of the old trees are so badly frostbitten, that they will die out, body and branch. * * * Nothing can now be done, though we advise *cutting back,* very severely, before the sap starts in February and March."

Last year, throughout Western New York, the thermometer fell from 20° to 26° below zero. All the peach buds were killed, and it was feared that all the young wood and most of the old trees were killed also. On this supposition, thousands of peach trees were cut back so severely that nothing but the trunk and a few of the large branches were left. These trees made a vigorous growth the next summer, and will doubtless bear fruit in a year or two. Those not cut, however, did equally well—making the finest growth we ever saw before—and will probably bear a good crop next year. We say, then, do not be too hasty in "cutting back very severely;" wait till the sap starts, and you will then be able to see what you are about.

We shall be glad of the experience of our readers on this subject.

Ladies' Department.

THE FAIRIES' FROLIC.*

BY E. W. B. CANNING, STOCKBRIDGE, MASS.

CHAPTER FIRST.

Musing alone the other day,
And giving fancy transient play,
I dropped into that phase of life
The poet speaks of in his dreams—
When truth that *is*, and truth that *seems*,
Blend in fantastic strife."
While thus entranced, appeared to me,
As real as a thing could be,
The curious fantasies that follow,
Which, although due not to Apollo,
Gave me some grains of truth to swallow;
For truth sometimes, as it would seem,
Is taught us even in a dream.

Methought I saw an ancient codger,
Whom I, for short, appellate "Roger;"
(It might have been Tom Harrigood,
Or other name of longitude.)
Said Roger was a hard-faced man,
And o'er his brazen features ran
Some dozen lines or more, which care,
And avarice, and "wear and tear."
And selfishness had furrowed there.

Broad acres Roger could command
Of pasture, field, and meadow land,
Whereon he raised tremendous crops,
That rivalled even his chimney-tops.
Potatoes—"Carters" and "Meshannocks,"
Sand-Lakes" and "Pink-eyes," "Rappahanocks,"
Mercers"—in bushels by the score,
When *rot* to walk his fields forebore;
Half-miles of corn, green, stout, and tall;
Wheat, rye, and oats and barley—all
(Pardon my fancy for such yarns)
Determined seemed to burst his barns.
To mention not his tons of hay,
That scented the capacious bay,
Or rose in mimic mountains where
He stacked the surplus, rich and rare.
Omit, too, all those minor things
Of which no decent poet sings:
Carrots and cabbage, onions, beans,
Squashes and pumpkins, beets and greens,
All of a California size,
Which made old Roger bless his eyes.
And then his dairy! What a store
Of milk-pans, brimmed and running o'er!
Cheese by the hundred, large and sound,
Like Falstaff's stomach, plump and round.
Such were the good things Roger had:
But every good hath eke its bad.
There were some other things he'd *not*,
For his ideas never shot
Higher than steam of dinner-pot.
Of the true and the beautiful,
He, as his ancient milking-stool
Was ignorant; and much I fear,
Woe never cost his eye a tear.
Or his purse six-pence—save his tax,
And that stuck to his hands like wax.
To sum the whole,
(If you were on such trial bent,)
Just bait a mouse-trap with a cent,
You'd catch his soul.

And now 't is time, this story telling,
Briefly to speak of Roger's dwelling.

It was the same (save greater wear,
And thumped by later tempests) where
His sire and grand-sire life had tried,
Toiled, married, moved, grew old, and died:
Guiltless of paint for fifty years,
Sad as a Hottentot in tears;
With storm-beat boards, whose creak and wail
Asked vainly for another nail.
No tree of grateful shade grew nigh,
To cool the beams of hot July:
But down they shot, like hissing ball
Sent into doomed Sebastopol.
Stumps two or three were there, to show
Where maples, many years ago,
Had dared in honest pride to grow.
Alas! their owner thought them made
For back-logs rather than for shade:
They shadowed, too, a carrot-patch,
So down they went with all dispatch.
Of fruit-trees, ne'er a one had he,
Nor for them cared a "sumarkee:"
I'm wrong, for in one pasture grew,
Or rather stood, a sorry few,
Which for their hold had fought the storm
A hundred years, and moss and worm.
They *looked* like apple, and his axe
Had spared them, for they paid a tax
Of cider (though 't was very small,)
Whene'er they strained to bear at all.
Of other kinds, peach, pear, or plum,
Cherry or quince, had sooner come
In grounds of Pandemonium.
His yards to better ends, thought he,
Could open and devoted be.
Carts, harrows, plows, and chips and muck,
And various kinds of farming truck,
Lay scattered round—the veriest clutter,
But greatful as his bread and butter.
Old Roger's field-crops were his pride;
But give him these, and all beside,
Except his stock, was balderdash;
And as for fruit—such foolish trash
His boys could steal, he took for granted,
On moonless nights, and when they wanted.
Careful, on such nocturnal rummage,
The owner sought not *him* for damage;
And only for such legal jogging,
The boys were called to take a flogging.

CHAPTER SECOND

Thus endeth part first of my story.
One day, absorbed in vain self-glory,
In corn-field, on a pumpkin, sat
Old Roger. Down he put his hat,
Then plied a horn of Holland gin,
Which he had bought *for medicine;*
And, leaning 'gainst a tree that grew
Where it could never *damage* do,
Composed himself his crops to see,
And fell into a reverie.
And now the strangest thing of all
Transpired, to which I beg to call
Your strict attention;
Fearing that, in this latter day,
When spirits so fantastic play,
You 'll think that what my muse may say
Is pure invention.
Was I mistaken that I heard
A signal-whistle?—when appeared
An army of the quaintest things
That e'er employed or legs or wings.
So odd they seemed,
That sure I am no mortal e'er
Saw beings so grotesque and queer,
Save when he dreamed.
The nearest picture of their looks
You 'll find in ancient story-books—
Of elf and ogre, sprite and fairy.
Some winged, some clawed, some smooth, some hairy;
Grimacing, frolicking,
Dancing, and rollicking,
Kicking and leaping,

* We need offer no apology for publishing in our Ladies' Department "The Fairies Frolic," from the *Knickerbocker Magazine*, to the exclusion of an article we had prepared for this number; not that this is applicable to the ladies, but no "Roger" can complain of the room it occupies.

And hopping and creeping;
Some turning somersets
Over tall violets;
Some little noses
Each other's noses
Pulling, and hiding behind the bright roses.
Brimful of fun
And mischief, they run
And scamper like mice, old GRIMALKIN to shun.
Well, such a host as this beset
Old ROGER, and he 'll ne'er forget
The awful way they treated him
Till feathers sunk and lead can swim.
All seemed with earnest zeal to be
The champions of some favorite tree,
Which he, with hatred unalloyed,
Had always warred on and destroyed.
Each little imp possessed, I ween,
His own peculiar magazine:
Capacious pockets, hugely stored
With various fruits — a motley hoard,
Which he, with hearty aim inspired,
Right plump at ROGER'S target fired.
Here flew a peach and there a plum,
While fore-and-aft the cherries come.
Alarmed, he squirmed on every tack,
And caught on every side a whack;
Hard apples bounded from his pate,
And thumped his ribs at shocking rate.
The little torments mocked his fears,
Plugged at his eyes, his nose, his ears,
His mouth, his cheeks, his sides, his breast,
Without a single moment's rest.
Now, with a mad, spasmodic grasp,
Old ROGER sought a foe to clasp,
Clutching around him far and near;
But, with inimitable leer,
Of his intention well aware,
They left his fist fast-closed in air;
Then, full of glee, like hail and rain,
They poured their missles in again.
Perhaps a listener might have heard
The pigmy-torturers fling a word
Amid their sport, like this, to wit:
"Please tell me how those apples fit!
Take that, and that!
And learn, old rat!
Your war on our domain to quit.
At him, my braves!
Till peace he craves —
No sin his villain blood to spill!
We 'll pommel him
Till stars are dim;
He 's worse than the Nebraska-Bill."
No lack was there of hearts and hands
To execute these said commands.
Battered and bruised and blind and numb,
Old ROGER thought his hour had come.
With conscience, then, fast growing tender,
An unconditional surrender
He deems it best to make, until
He time may have to write his will.
So, with an accent far from bold,
He calls: "Peccavi!" "Quarter!" "Hold!"
"Cease!" quoth the leader of the host:
Each Lilliputian at his post
Repaired at once, from arms and cries,
But still looked daggers through his eyes.
Then came a parley, and a truce,
The terms of which I beg excuse
For not repeating, as they 're long,
Inapt for weaving into song.
Their purport may be gathered well
From the brief sequel I shall tell;
And I 'll for ROGER'S credit say,
He kept them to his dying-day.

LONG years elapsed, and ROGER'S home
Had quite a different place become:
Fine rows of thrifty, shady trees
Lifted their verdure to the breeze;
The plum, the apple, and the peach
And pear were all within his reach;
While, nailed to every garden wall,
His grapes were neither few nor small.
In fact, his nursery was famed
The country o'er, for model named.
Still greater crops increased his joys;
He grew in wealth, and then his boys
Went forth no more o' nights to sin —
Their "mother knew that they were in."
His neighbors dropped the name "old codger:"
'T was now respectful "Mr. ROGER."
His dwelling, too, kept pace with all:
The shingles new, and painted wall;
His fences straight, upright, and stout;
His door-yards neat and clear throughout.
In fine, whoe'er might ROGER scan,
Found him a wholly-altered man.
The little sprites who nightly came
To frolic on some funny game,
Declared he 'd met their expectation,
Needing no further visitation.

And now, my friends, the *moral* hear;
Then you and I are this time clear.

MORAL.

Not crops, alone, gigantic, can
Of a curmudgeon make a man:
And wondrous 't is, how raising fruit
Can civilize the human brute.

HINTS FOR HOUSEWIVES.

VEGETABLES SHOULD BE COOKED IN SALT WATER. —It is well known that after potatoes are boiled and the water poured from them, if they are well shaken up, *with the addition of a little salt*, their flavor is much improved. Why, we know not. Professor BOETHGER, a German chemist, speaking in reference to boiling vegetables in water to which a little salt is added, says:

"If one portion of vegetables be boiled in pure (distilled or rain) water, and another in water to which a little salt has been added, a decided difference is perceptible in the taste and odor, and especially in the tenderness of the two portions. Vegetables boiled in pure water are vastly inferior in flavor. This inferiority may go so far in case of onions, that they are almost entirely destitute of odor or taste, though when cooked in salted water, they possess, in addition to the pleasant salt taste, a peculiar sweetness and a strong aroma. They also contain more soluble matter than when cooked in pure water. Water which contains 1-420th of its weight of common salt is far better for cooking vegetables than pure water, because the salt hinders the solution and evaporation of the soluble and flavoring principles of the vegetables. This explains the advantage of the general use of salt in cooking, and the impossibility of correcting, by subsequent additions of salt, the want of flavor in vegetables that have been boiled without it."

SAUSAGE MEAT is best preserved in new cotton bags a foot long and two or three inches in diameter, which after filling are dipped in and coated with melted lard. When used, the bag is sliced off with the meat, as it is much easier to make new ones than to preserve the old.

CHURNING. — In churning butter, if small granules of butter appear which do not "gather," throw in a lump of butter, and it will form a nucleus, and the butter will "come."

MINCE PIE MEAT will keep well for several months, boiled, chopped, and packed down in a stone jar covered with molasses.

Youth's Department.

GARDENING FOR YOUTH.

ANNUAL PLANTS.

In our last number we explained and illustrated the principal parts of a plant; it will be necessary, in speaking of plants, that these distinctions be quite familiar. Without now referring to the botanical divisions of classes and genera, we will here say that plants, in reference to the production of their seeds, are divided into annuals, biennials, and perennials. Annuals are such as are produced from the seed, attain their full growth, flower, form their seeds, and die in one season; as, for example, the pea, bean, wheat, oats, &c., &c. Biennials require two years from their germination to their full development; flowering at the close of the second season, producing their seed, and then decaying. Familiar examples of this division are found in the cabbage, beet, onion, &c. Perennials are such as flower and continue to live year after year; as, for example, the forest and fruit trees, the rose, the lilac, the common garden pink, lilies, crocuses, hyacinths, &c. Among plants cultivated for the beauty of their flowers, the annuals exceed all others in number, in variety and brilliancy of colors, and in rapidity and ease of propagation, and therefore justly deserve the attention of every one who by the culture of flowers attempts to adorn that cherished spot called home. To enumerate all the varieties of annuals would be a laborious task, and we shall therefore only mention a few of the most beautiful, and give some general directions for their cultivation.

Aster Chinensis—*China Aster.*—The China Aster was introduced into Europe by Father D'Incarville, a missionary in China. He carried the seeds from China to Paris in 1730, and since then they have been disseminated throughout the world. Perhaps no flower has been so completely transformed and improved by careful culture as this. When first brought to notice it was a very ordinary affair, having merely two or three rows of petals surrounding a large yellow disk; now, one who never saw it except in its natural state, would scarcely recognize the beautiful offspring of so ugly a parentage. Perfect flowers are, however, by no means common; on the contrary, only the poorer sorts are generally known. Among the many hundreds we saw on exhibition at the various horticultural shows in different parts of the country during the last season, there was not one really good specimen, and but very few that were even tolerable. In a good flower the petals should be thick and smooth at the edges; the flower should be double to the center, round and even in outline, and regular in the disposition of the petals; the color for a self should be decided, and for a variegated flower each color should be distinct, without intermixing. The plants are easily propagated by sowing the seed on a gentle hot-bed or a warm border as early in the season as practicable; when they are two or three inches high they should be transplanted singly into a rich, dry soil, a foot apart.

Balsamina—*The Balsam.*—This plant is a native of the East Indies, China, and Japan, and was carried to Europe in the sixteenth century. It is no doubt familiar to many of our readers by the common name of Lady Slipper. When well grown the densely crowded column of large double flowers is a remarkably beautiful sight, but fine specimens are very rarely seen. It has many distinct shades of color besides producing variegated blossoms of every conceivable sort. The principal single colors are white, red, purple, scarlet, and rose. The flowers, when perfect, are so large and double as closely to resemble a medium size, well formed rose. Its propagation and treatment may be the same as for the Aster, only being particularly careful that the soil into which it is transplanted is quite rich and well worked.

Bartonia aurea—*Golden Bartonia.*—This is one of the most beautiful of the California Annuals. It was first brought to notice in 1835. Dr. Lindley, the celebrated Botanist and Vegetable Physiologist, observes: "It is only beneath the bright sunshine that its splendid flowers unfold. In the early morning the plant is a shabby bush, with pale, greenish gray branches, and weedy leaves; but as the sun exercises his influence, the petals gradually unroll, as if in acknowledgment of his power, till every branch is radiant with gold; and so metalic is the lustre of the inside of its petals, that one would really think they must be composed of something more solid and enduring than the delicate and perishable tissue of a flower." The seeds should be sown about the middle of spring, in a warm, rich, moist soil.

Campanula—*Bell Flower.*—Species of this plant are to be found in every part of the world. It has long been cultivated, and its graceful, pendant, bell-shaped, blue flowers are universally admired. The seed may be scattered thinly over a bed in any common garden soil, and lightly raked in as, early in the spring as the ground becomes warm. If the plants stand too thick after they are up a few inches, they can be transplanted.

Calandrinia speciosa—*The Showy Calandrinia.*—This pretty little flower is a native of Northern California, where seeds of it were first obtained in 1832. The seeds should be sown, any time during the spring, in dry and exposed situations, where it can have abundance of light and heat. It requires very little water, and flourishes best in weather when most other plants are burnt up.

Convolvulus purpureus—*The Purple Convolvulus.*—The Purple or Major Convolvulus is well known in this country under the name of Morning Glory. It is a native of Asia and South America, and was probably introduced into European gardens early in the seventeenth century. The flowers vary much, displaying many shades and combinations of white, reddish-purple, bluish-purple, and violet. It appears to the best advantage when trained on strings reaching from the ground over windows or against a wall. The seeds should be sown early in the spring in shallow drills, and lightly covered. The plants, when up, should stand about an inch apart.

Convolvulus tricolor—*The Three-colored Convolvulus.*—It is known commonly under the name Convolvulus minor, or Dwarf Convolvulus. It is a beautiful flower, with three distinct colors—yellow, blue, and white; and is a native of Spain, Portugal, Sicily, and the North of Africa. It is worthy of very general cultivation. The plant grows about six or nine inches high, and blossoms profusely. The flowers always fold in cloudy weather and at night. The seeds may be sown early in the spring, an inch or two apart, in a dry, light, and rich soil.

Editor's Table.

CHEERING PROSPECTS.—We are happy to inform the friends of the GENESEE FARMER that its circulation the present year will far exceed our most sanguine expectations. Up to the present date, (January 28,) our subscription list, as compared with the list at the same time last year, is as 25 to 13. This is nearly double. But as at this date last year, not quite half our ultimate subscription list was received, we shall doubtless this year also double our *present* list. These are most cheering prospects, for which we are principally indebted to those true friends of rural improvement who have so energetically acted as voluntary agents for the GENESEE FARMER. They will accept our sincere thanks.

We would ask subscribers at Post Offices where only one or two numbers of the GENESEE FARMER are now taken, to get us up a club of eight. The prejudice against "book farming" is gradually wearing away, and it is now a comparatively easy matter to get subscribers. There are surely in your neighborhood seven men besides yourself who, were they asked, would be willing to pay the paltry sum of 37½ cents for a paper which contains *much more* agricultural and horticultural matter than any of the *dollar* monthlies in the country, and nearly as much as any of the *two dollar* weeklies, and *more* than those whose loud pretensions and constant self puffing have enabled them to attract considerable attention.

Those who have sent 50 cents for a single copy, can send $1.50 more for a *club of five*, or $2.50 more for a club of *eight*. Those who have sent $2.00 for a club of *five*, can send $1 more and increase the club to *eight*, and be entitled to a copy of the *Rural Annual* for getting up the club.

Look at the *Premium List* for 1856, and see what liberal offers we make our agents.

OUR PREMIUMS.—In the May number we shall announce the successful competitors for the premiums which we have offered for the greatest number of subscribers obtained previous to the 15th day of April. We trust that our agents will keep this in mind, and not abate their efforts until they have done their best.

To those who have not yet undertaken to compete for a premium, we would say, it is not too late; by energetic and industrious action, you may yet gain the first rank.

Do not hesitate to commence because others may have gained a start upon you—"the race is not to the swift, nor the battle to the strong."

Let every agent renew his efforts. How few have done all they can do. If you do not succeed in obtaining a large premium, you are sure of one for every club of eight or more.

Subscribers or agents desiring copies to use in obtaining subscriptions, will be supplied gratis by applying to us, or any they may use of their own numbers, and soil or lose, we will willingly replace.

UNITED STATES AGRICULTURAL SOCIETY.—The Fourth Annual Meeting of the United States Agricultural Society was held at Washington January 9—12. Many delegates were prevented from attending by the delays on the railroads caused by the heavy snow-storms, so that the meeting was not large.

From the Report of the Treasurer it appears that the receipts at the exhibition at Boston were $31,808.58, and from sales, &c., $5,363.96. There was paid out, for premiums, $10,205.98, other expenses, $25,054.44; leaving a balance of $1,822.12 in the treasury.

The President read a series of resolutions from the Illinois Legislature, asking appropriations from Congress for agricultural purposes. Referred to a select committee, of which Prof. HENRY, of the Smithsonian Institute, is chairman.

D. J. BROWNE, of the Patent Office, read an interesting paper on the improvement of the horse in the United States. He recommends that depots for stallions of approved breeds be formed in the several States and Territories, and that breeding horses of one or both sexes be imported from various parts of Europe, Northern Africa, and South America. An adequate appropriation should be made by Congress for the purpose, or it could be done by the States themselves through their Agricultural Societies.

Capt. VAN VLEIT, U. S. Army, read a paper upon the Rocky Mountain Sheep.

Prof. BAIRD, of the Smithsonian Institution, exhibited specimens of the horns, hoofs, head, and hair of the Rocky Mountain Sheep, and urged several reasons why the animal should be domesticated, stating that, wild and difficult of access as they were, an appropriation of from $100 to $200 would induce some hunters about Fort Laramie to persevere in their efforts until several pairs of these animals could be obtained, which would be sufficient to warrant an attempt at their domestication.

D. J. BROWNE spoke of the attempt to domesticate the buffalo and cross the breed with that of the tame cattle, and went into some details showing the doubtful success of the attempt.

B. P. POORE gave a description of an attempt his father made to domesticate imported sheep of a fine breed among the hills of Georgia. The result of the experiment was that most of the sheep died, and the shepherds who had been brought over to take care of them insisted that the reason of their death was that the country was too wild for them. Mr. POORE thought that if this country was too wild for the European sheep, it must be the very place in which the experiment of domesticating the mountain sheep would meet with the greatest success.

D. J. BROWNE offered a resolution that the Executive Committee be empowered to import seed wheat from the Mediterranean and Black Sea, which, "when cultivated in various sections of the United States, matures several days earlier than the ordinary varieties in use," and is more prolific.

Mr. KIMMEL thought the importations could be made through our American Consuls residing in the countries where these varieties grow. He spoke of an attempt he had made to domesticate a kind brought from a part of Europe ten degrees further north than the place in America where it was planted. The result was, that in the course of a few years it had assumed the same appearance as native wheat.

Mr. BROWNE thought wheat should be brought from a warmer climate than that of the place in which it was planted.

The second day was occupied in a warm and somewhat

personal discussion on meteorology, between Lieut. MAURY and Prof. HENRY.

Afterwards the "Executive Committee" tested a dozen of Mr. LONGWORTH's sparkling Catawba, sent by that gentleman for the "Secretary's acceptance."

The Third Day was occupied in the election of officers, which resulted as follows:

For President.—MARSHALL P. WILDER, of Mass.
For Vice Presidents.—J. D. Lang, Maine; H. F. French, New Hampshire; F. Holbrook, Vermont; Simon Brown, Massachusetts; Joseph Cooke, Rhode Island; John A. Rockwell, Connecticut; Dr. J. P. Beekman, New York; Geo. Vail, New Jersey; Isaac Newton, Pennsylvania; J. W. Thompson, Delaware; A. Kimmel, Maryland; G. W. P. Custis, Virginia; H. K. Burgwyn, North Carolina; R. F. Walston, South Carolina; R. Peters, Georgia; C. C. Clay, Jr., Alabama; J. Perkins, Jr., Louisiana; J. T. Worthington, Ohio; M. L. Underwood, Kentucky; J. Bell, Tennessee; Jos. A. Wright, Indiana; J. T. Kennicott, Illinois; Thomas Allen, Mississippi; R. Beebee, Arkansas; J. C. Holmes, Michigan; D. L. Yulee, Florida; T. J. Rusk, Texas; J. W. Grimes, Iowa; P. Ord, California; W. W. Corcoran, District of Columbia; J. M. Gallegos, New Mexico; H. H. Sibley, Minnesota; P. W. Gillett, Oregon; C. Lancaster, Washington Territory; E. Hunter, Utah; B. B. Chapman, Nebraska.
Executive Committee.—J. A. King, New York; A. S. Elwyn, Pennsylvania; D. Jay Browne, District of Columbia; W. H. H. Taylor, Ohio; R. P Waters, Mass.
Secretary.—Wm. S. King, Massachusetts.
Treasurer.—B. B. French, District of Columbia.

Philadelphia has been fixed upon as the place for holding the next Fair.

THE *Rural New Yorker* for January 26 contains a long article from Dr. FITCH, the State Entomologist, for which it probably paid pretty handsomely. Such a thing is so unusual with the *Rural*, that its modest publisher, instead of treating us with the usual paragraph about the enormous circulation, unparalleled popularity, immense influence, and astonishing usefulness of his paper, varies the tune as follows:

"It may not be improper to add that, aside from the matter furnished by its editors, this number of the *Rural* contains articles which cost us some fifty dollars, and the engravings are worth nearly an equal amount. Those who complain at the slight advance on the club price of the paper, need scarcely be assured that our profits this year, even with an increase of from ten to fifteen thousand subscribers, will not enable us to make greater dividends than heretofore,—for we could better afford to furnish such a paper as the *Rural* was two years ago, at its then price, than we can the present volume at the advanced rate of club subscription."

The past experience of the *Rural* man has doubtless led him to believe that its readers have a capacious swallow; but this time he is surely presuming too much on their credulity. Let us see. If we are to credit the *Rural's* own statement, its circulation last year was 35,000. Now "an increase of from ten to fifteen thousand subscribers" would give forty-five to fifty thousand. Say 40,000. The "slight advance on the club price of the paper" is 25 cents. It follows, therefore, that the profits are $10,000 greater than they would be at its former price; and yet we are told that "we (the *Rural*) could *better* afford to furnish such a paper as the *Rural* was two years ago, at its then price, than we can the present volume at the advanced rate of club subscriptions"!!

What kind of paper "the *Rural* was two years ago" it does not become us to speak. Of the cost of publishing the paper then and now we may hazard an opinion.

First, the paper the *Rural* was printed on two years ago, and the press-work, cost *more* than they do now—and these are the great items. (We are informed that the *Rural* now pays for press-work three cents per "token" *less* than it did two years ago. This, on an edition of 40,000, is a saving of about *five hundred dollars a year!*) The cost of setting up the paper, proof reading, &c., was nearly or quite as much two years ago, as at present. Folding, mailing, &c., the same, of course. The only difference then, if there be any, must be in the cost of editing the paper and of the illustrations. The "able corps of assistant editors" is the same now, we believe, as it was two years ago, minus JOSEPH HARRIS. His salary, small as it was, would doubtless be much more than sufficient to pay the half dozen "special contributors" whose names are now given in the *Rural*. Each of these gentlemen wrote for the *Rural* two years ago, as much in the aggregate, probably, as they do now. So much, therefore, for the increased, or rather *decreased*, cost of editing the paper.

Of the illustrations, two years ago, we have nothing to say—we admit that they did not cost the *Rural* much. But do they cost it any more this year? "Yes;" replies an innocent *Rural* reader, "in the number for January 26, it is said they cost near $50." Such is certainly a fair inference from the language above quoted. Let us see. The first cut is "Hallock's Cross-cut and Circular Saw-mill;" (a really valuable machine, by the way,) a cut which the *Rural was paid eight dollars for putting in.* It has been in the *Rural* before, and will be found in our advertising columns.

The next cut is the "Lawton Blackberry," which was engraved for the publisher of the GENESEE FARMER. As a second hand cut it *may* have cost the *Rural* one-tenth of the original cost of engraving—say one dollar.

The third cut is a "Deaf and Dumb Alphabet," a common second hand thing, which *may* have cost the *Rural* fifty cents or a dollar!

The fourth and last cut is a silly charade—the only original cut in the paper—costing, perhaps, two dollars; and yet the *Rural* has the face to tell its readers that "this number contains engravings worth nearly" fifty dollars!! Go it, Neighbor! Swagger and pretension have done you good service so far, and become you well. But don't talk so much about "low-priced" papers.

P. S. Wonder if the story about the fifty thousand subscribers is as reliable as the story about the fifty dollar cuts?

DEATH OF DR. T. W. HARRIS.—This well-known entomologist, died at Cambridge, Mass., of dropsy on the chest, on the 16th ult. Dr. H. has been for many years librarian of Harvard University, a position which enabled him to pursue his favorite studies with great advantage. His work on "Insects Injurious to Vegetation," as well as his frequent contributions to our agricultural and horticultural journals, have been of great benefit to this branch of science.

BIRMINGHAM CATTLE AND POULTRY SHOW.—A lady correspondent, writing to us from England, adds in a postscript: "I have just attended the great Cattle and Poultry Show at Birmingham. There were 1,800 pens of poultry! The cattle were splendid. The Herefords and Devons take the lead, at least so I should judge. There were few Leicester sheep present, the Cotswolds and the Shropshire Downs being evidently the favorites. The show on the whole was magnificent, but, from its select character, to me less interesting than many of the American Fairs which I have attended."

THE GENESEE FARMER.—Never since the commencement of this periodical have its prospects been more flattering, or its success and usefulness more certain. We have now on our books the names of nearly twice as many subscribers as we had at the same date last year. It is gratifying to know that our efforts to furnish the farmers of this country with a cheap, useful and reliable agricultural journal are so well appreciated. Let our friends and the friends of agricultural improvement still continue their efforts to increase our circulation, With proper effort on the part of each subscriber, our subscription list may still be much increased. Our friends who have interested themselves so successfully in behalf of our journal will accept our best thanks. The *Genesee Farmer* is not inferior to any agricultural journal in the world. Its matter is prepared for its pages alone,—and we have no object but to advance the interests of our readers. Its price is so low that the poorest farmer can take it without inconvenience, and the richest cannot afford to "get along" without it. We give a few extracts from our business letters, showing the estimation in which the *Farmer* is held by its readers:

"I have taken the *Genesee Farmer* nine years, and like it very much." E. R. S., Bigalow's Mills, Ind.

"I read quite a number of agricultural works, but find no one that contains so much valuable information for *so little money*."
H. S., Rochford, Ill.

"I cannot get along right without the *Farmer*. I have taken it for the last three or four years, and I feel lonesome without it."
J. W. McC., Algonquin, O.

"We cannot do well without the *Farmer*. I find every number has been worth *one dollar* to me in my agricultural pursuits. We find it gives us new ideas, and a taste for scientific farming."
J. B. H., Linden, Ind.

"We have a Town Agricultural Society, formed two years ago, and have held two Fairs. If we could award a goodly number of the *Farmer* as premiums, I think that by extending its circulation among us much good would be done." J. B., Virgil, N. Y.

"There is no agricultural paper that I read with more care and profit than I do the *Genesee Farmer*; no where else do I find, as scientific research and investigations, such practical suggestions as are always to be found in the *Farmer*."
H. J. F., Palmyra, N. Y.

"I have taken the *Genesee Farmer* two years, and think it is a very valuable paper, and one that ought to be read in every family. I was the only person that took it in this neighborhood, but I thought the *Farmer* contained too much useful information for me to enjoy its benefits alone, I have therefore got up a club."
D. C. H., Rainham, C. W.

"I am trying to cultivate a small farm here in Illinois, and as I used to be a mechanic, and worked everything by pattern, I think farming should be done on the same principle; therefore, I have persuaded my neighbors to put in with me and send for the patterns. You will therefore send twenty-four copies of your excellent paper."
E. L. T., Parks' Corners, Ill.

"I am well pleased that thou hast purchased the entire interest in the *Genesee Farmer*. I will see that it has fair play in these parts. We have a club nearly ready to send. I have induced my friend —— to act as agent, while I will bring it to the notice of our neighbors I believe it is rather the best agricultural journal published."
J. H. A., New London, Ind.

"I shall endeavor to circulate the *Farmer* among our farmers as much as possible. It is a paper I think worthy their patronage. The useful and instructive matter which it contains, the good style in which it is executed, as well as the extremely low rate at which it is published, are all inducements for its promulgation. I shall endeavor to add more names to our club this winter."
F D., Staunton, Va.

"With little trouble I have formed a club. If every subscriber would take the same interest in the *Genesee Farmer*, it would be of very great importance to the publisher and an hundred fold more to themselves; for as is good tillage and well manured land to a good crop, so is a large subscription to a well regulated and well conducted agricultural paper. Farmers must learn, sooner or later, that to succeed in farming successfully they must feed the editors as well as the farm. A lean horse never plows deep."
J. C. A., Seymour, N. Y.

"As the time has arrived for renewing my subscription for your valuable paper, the *Genesee Farmer*, I hasten to send in my subscription for the year 1856. I should be utterly lost without it. It has been my study since and including the 7th volume, and I really have no desire to part with it now under any circumstances. In fact it is like an old friend, and I hope it will long continue, as it now is, a blessing to all who take it and read it."
G. A., Stockbridge, Wis.

"With pleasure I act as your agent, and notwithstanding the various papers published in the *West* treating upon the best modes of farming, there is not one in my opinion that will be as useful to the farming community as the *Genesee Farmer*."
L. A. E., Mishawaka, Ind.

"May your excellent journal visit the Keystone State until every farmer within her domain shall be made acquainted with its pages, and thereby learn that a farmer's duty does not altogether consist in holding the plow, but that he may let go for a little season and peruse some well written article on plowing, and then return with renewed vigor prepared to give mother earth a dose that will make her smile on her once prodigal but now dutiful son."

"I am still interested in your journal, and rejoice in its prosperity; and I hope it may have a still more extended circulation."
A. Y. S., Edinburgh, O.

CHOICE SEEDS.—We would call the attention of our readers to our advertisement of Vegetable and Flower Seeds. Having found it impossible to obtain in this country a good article of the finer sorts of these seeds, and having many inquiries for them from many parts of the country, we have imported from France an assortment which we offer for sale. As we have planted seed obtained from the same source annually for the last three or four years, we can with the most implicit confidence recommend them for their freshness and genuineness. Many kinds of these seeds it is impossible to obtain elsewhere, and all of them we know to be very superior. The list of flower seeds we would especially recommend to notice, as it is very full, and embraces the most beautiful and highly prized sorts. They can be sent by mail to any part of the country.

FORM CLUBS.—We send hundreds of copies of the *Genesee Farmer* to Post Offices where only a single copy is taken. We would ask each of these subscribers to consider himself an agent, and form a *club*. Those who have sent 50 cents for a single copy, can have a club of five sent by forwarding $1,50 more, or a club of eight by sending $2,50 more. Those who have sent $2,00 for a club of *five*, can increase it to *eight* by forwarding $1,00 more. Let all examine our club terms and premium list on last page.

TO THOSE WHO FORM CLUBS FOR 1856.—We do not ask that all the members of a club should receive their papers at one office. We are willing to send to as many Post Offices as there are members of the club, if necessary for the convenience of subscribers. But where it is practicable, Post Masters would accommodate us by keeping a list of the subscribers at their office, and allowing us to send the whole number to their own address. This saves us the trouble of writing on all the papers. Many have done this the present year.

OUR friends ordering the *Farmer* will be particular in giving the names of the Post Office, County, and State; also in writing names plain, as by this much perplexity may be avoided to ourselves and subscribers.

AGRICULTURAL BOOKS AND LIBRARIES.—We refer all to our offer of Agricultural Books. We know of no better way in which a young man could obtain a few good Agricultural Books than by obtaining subscribers to the GENESEE FARMER. The fall and winter months afford leisure, and the price of the FARMER is so low and its merits so well appreciated, that few will refuse to subscribe if solicited. We will send specimen numbers and showbills to all who apply.

BOUND VOLUMES.—The volumes of the *Genesee Farmer* from 1847 to the present time, half-bound in sheep, for sale at this office at 62½ cents per volume. In addition to the price of the volume, those who order them to be sent by mail should inclose twenty-five cents for each copy, to prepay postage.

MARKET REPORTS.—We intend to give in tabular form an accurate report of the prices of farm products in the principal markets of this country, Canada, and Great Britain. It is crowded out this month.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1856.—Copies of this work will be sent by mail free of postage to any one remitting to this office the price of the book—paper cover, 25 cents: cloth, 50 cents.

TO OUR CANADIAN FRIENDS.—We shall continue to furnish the FARMER to our Canadian subscribers free of American postage.

Notices of New Books, Periodicals, &c.

LIVES OF ATROCIOUS JUDGES: Lives of Judges infamous as Tools of Tyrants and Instruments of Oppression. Compiled from the Judicial Biographies of Lord JOHN CAMPBELL, Lord Chief Justice of England. With an Appendix containing the case of PASSMORE WILLIAMSON. Edited, with an Introduction and Notes, by RICHARD HILDRETH. New York and Auburn: MILLER, ORTON & MCLLIGAN.

This work is executed in good style, and considering the sources from which its contents are drawn, must prove reliable and valuable. The appendix relates to a case with which we are all familiar, and which deserves the attention of every intelligent citizen. Our country as yet has furnished comparatively few examples of judicial corruption, and we sincerely pray that this republic may never witness within its borders similar examples of "wickedness in high places" as is here recounted. For sale by D. M. DEWEY, Rochester.

THE PRINCE OF THE HOUSE OF DAVID: or, Three years in the Holy City; being a series of the Letters of ADINA, a Jewess of Alexandria sojourning in Jerusalem in the days of Herod, addressed to her father, a wealthy Jew in Egypt, and relating as by an eye witness all the scenes and wonderful incidents in the Life of Jesus of Nazareth. Edited by the Rev. Professor J. H. INGRAHAM, Rector of St. John's Church, Mobile. New York: DANA & Co.

It was the editor's hope, in writing these letters, to tempt the daughters of Israel to read what he wrote, and receive and be convinced by the arguments and proofs of the divinity of Christ as here presented. ADINA, the writer, a Jewess, is assumed to have been a resident of Jerusalem during the last four years of our Saviour's life; and to have written to Alexandria, to her father, numerous letters, describing all events of interest, and especially giving a minute narrative of the wonderful events in the life of Christ whom she daily saw. For sale by E. DARROW & BRO., Rochester.

SUMMER VACATION ABROAD. By Rev. F. DE W. WARD. Rochester: E. DARROW & BRO.

The above is the title of a 12mo. work of about 300 pages just issued in this city, and will be found to be extremely entertaining and instructive. It is a record of travels through the most interesting portions of Europe; and as its author is a man of much experience, and both an earnest Christian and a ripe scholar, his statements and opinions may be received with entire confidence.

THE LONDON, EDINBURGH, NORTH BRITISH AND WESTMINSTER REVIEWS, and BLACKWOOD'S MAGAZINE are republished by LEONARD SCOTT & Co., No. 54 Gold street, New York, and can be had singly at $3 each per annum, or any two for $5, or the whole for $10. We cannot recommend these well known British periodicals too highly.

EDNA, THE FOREST PRINCESS: or, Pilgrimage of the Three Wise Men to Bethlehem. A legend of Germany in the olden time. Translated from the German of GUSTAV NIEBITZ, by Mrs. H. C. CONANT. Rochester: E. DARROW & BRO.

A beautiful moral tale of the time of the Roman Emperor AUGUSTINE, and exceedingly interesting to youth.

GLANCES AND GLIMPSES: or, Fifty years Social, including twenty years Professional Life. By HARRIET K. HUNT, M. D. Boston: JOHN P. JEWETT & Co.

An interesting autobiography. For sale by D. M. DEWEY, Rochester.

"ZAIDEE, A ROMANCE," from *Blackwood's Magazine*, has been published in book form by JOHN P. JEWETT & Co., Boston. It is, beyond compare, the best work of the kind we have read for a long time. D. M. DEWEY, Rochester, has it.

DEVON HERD BOOK, VOL. III.—The American Editor of the Devon Herd Book, SANFORD HOWARD, Esq., editor of the *Boston Cultivator*, gives notice that he is ready to receive lists of animals to be inserted in the third volume, issued during the present year.

AM. HERD BOOK, VOL. III.—It is the intention of L. F. ALLEN, Esq., to prepare another volume of the American Short-horn Herd Book. Breeders can obtain a circular giving all necessary information, by addressing L. F. ALLEN, Black Rock, N. Y.

Inquiries and Answers.

(WM. AYRES, Burlington, Ind.) The price of Dadd's Cattle Doctor is $1,00.

(HENRY M. SELDEN, Haddam Neck, Conn.) Cannot furnish FOWLER & WELLS' Books.

(J. C. C., Zanesville, Ind.) Probably R. L. ALLEN, 189 and 191 Water street, New York, has Italian rye grass seed for sale.

(J. N. S., *Marion, O.*) We believe the Bedford or Woburn breed of hogs has become extinct. We know of no breeder in this country or England that has them pure.

TO DRY COWS.—In answer to the inquiry in the October number, I would give the following method of drying cows, and which I have practiced with success in weaning colts. Milk only for two or three times, and each time take hog lard, as hot as you can bear it, and rub it on the bag. If this is well done a few times, the cow or mare will go perfectly dry, without leaving any hard lumps in the bag, or injuring the animal in any way. H. R.—*Mercer Co., Pa.*

[The lard acts only as a mollient. It is imperfect milking, or drawing out only a portion of the milk, and at long intervals, which checks the secretion, and soon causes the milk to cease altogether.—ED.]

(W. PRINCE.) SHOEING LARGE OXEN.—You are not alone in having your "heavy yoke of cattle lamed by shoeing." We have heard many such complaints. Considering the difficulty of shoeing cattle, and the liability to injury, you may well question the advantage of the process. A correspondent of the *Maine Farmer* says:

"One error in shoeing oxen is in the length and shape of the shoes." "If the shoes are long and crooked," he says, "they of course cause the weight of the ox to bear on the inner edge of the shoe or center of the foot, causing the hoofs to cant in an unnatural position. This may do for small, light cattle, but with heavy oxen it is quite different.

"In shoeing large oxen there should be one inch of the toe or forward end of the hoof left bare—and be sure that the shoe sets flush with the outside of the hoof. Then the heel of the shoe should not be crooked or turned in too much; but our blacksmiths are apt to be in too great a hurry, and if a shoe comes within nailing distance of a good fit they must nail it on in preference to selecting a better."

(H. L.) The *Boston Cultivator*, edited by SANFORD HOWARD, Esq., is the "best authority on stock matters" in this country. As a general agricultural and horticultural paper, the *Country Gentleman*, published at Albany, N. Y. has no superior in this or any other country. The *New England Farmer*, edited by SIMON BROWN, Esq., is also a most excellent paper. Either of these weekly papers can be had at $2 per annum.

(J. W., Waukesha, Wis.) BASKET WILLOW.—The low, swampy soil you describe will be the best kind of land for the osier, after it is properly drained. Willow culture will be quite as profitable in the West as in the Eastern States. At present, in St. Louis and other western cities, willows bring two cents per lb. more than in New York. There is annually imported into this country from France and Germany about fifty thousand dollars worth of willows. There is no reason why we should not grow at least all the willows we need for home consumption. The expense and labor of pealing have been the great drawbacks to the cultivation of willows in this country. Mr. COLBY, of Vermont, has invented a machine, which, judging from the model he has shown us, will do the work better than it can be done by hand, and at a cost not to exceed $10 per ton.

After the second year, you may expect two tons per acre, and possibly three tons. Pealed willows are now worth $150 per ton. The demand we believe will continue equal to the supply.

ASHES IN MANURE HEAPS.—I should like to inquire whether ashes, either leached or unleached, are a benefit or a damage when thrown into a manure heap. S. M. BLISS—*Corydon, Pa.*

Unleached ashes would have a tendency to drive off the ammonia, and would thus be injurious. Leached ashes would do no harm.

WIND MILL, &c.—What is the price of the Vermont wind mill—one that will do the work of two horses? (1)

Where and at what price can a pair of full blooded Yorkshire pigs be obtained? (2) V. L. COLLIER, JR., *Gallatin, Tenn.*

(1) The price of a Vermont wind mill of two horse power is $150. The agents, FOWLER & WELLS, also offer "a reasonable reduction to those who are first to purchase a mill in their own town."

(2) Address HUNGERFORD & BRODIE, Rural Hill, Jefferson county, N. Y.

BROKEN HORN ON CATTLE.—One of my cows has knocked off one of her horns. Can you give me a remedy. W. JONES.

The *Homestead* recommends the following:

"Make a bag of coarse strong cloth of suitable size and shape to cover the remaining core, fitting rather loosely, and run a large string into it near the top; pour in some tar, slightly warm in cold weather, slip it on the stump and secure it with the cord passing around the base of the other horn. This will stop the bleeding, protect the wound, and no farther attention will be necessary. In a few months the bag may be removed and no harm will result, except in appearance, from the accident."

WIRE FENCE, &c.—Please inform me what number of wire is best for a fence, till hedge can be raised; and how many pounds of wire will make a fence one mile in length by using four wires in the fence, or one wire four miles long; and what kind of fixings is used for stretching the wire, and the best plan for fastening the wire to the post; also, if posts set twenty feet apart is close enough.

Will Osage orange make the best hedge for fence? How should seed be prepared before planting in order to sprout quick? How would the barberry answer for a yard hedge, and where can the seed be obtained? JOHN FRANK—*Webster City, Iowa.*

We should be glad of the experience of our readers on these points.

SOUTHERN PEA.—I noticed in the June number of the Farmer an account of the southern pea, as being very good for fodder and for enriching the land. I should like to obtain some of the seed. Can you inform me where I can get a bushel of the seed. BENJ. C. KNAPP—*Lanesville, Conn.*

You can probably get the southern pea from R. L. ALLEN & Co., 189 and 191 Water street, New York. We saw some southern peas grown on Long Island last summer which were very good. As a general thing we should not expect it to do well further north than Philadelphia. Have any of our readers in the West used this pea, and with what success?

UNLEACHED ASHES FOR CORN.—Last spring I bought upwards of 100 bushels of unleached ashes, and put from a pint to a quart on a hill of corn, but left some rows in the middle and on each side without anything on them. I fully expected to see the corn where the ashes were put far outgrow the other, but to my surprise, and some little regret, I could not see a particle of difference during the whole summer. What was the cause; and do you think the ashes will manifest themselves next summer by giving a more vigorous growth to the corn. GEORGE CATTELL.

Probably your soil needs organic matter, especially ammonia, more than it does potash and the other mineral elements of plants; and as the ashes supplied only the latter, they did no good. Ashes may act in two ways, either by furnishing the mineral substances which enter into the composition of the plants, or by rendering available the organic matter of the soil. Now if the soil is destitute of organic matter on the one hand, or is not deficient of mineral plant food on the other, the ashes would do no good. Let us know whether the ashes do any good on the next crop.

WILL you or some of your numerous *practical* readers please answer some or all of the following interrogatories:

1st. The easiest method of permanently destroying that great pest to my warm gravelly loam, the running blackberry vine.

2d. The best time to cut bushes to subdue them.

3d. The best and safest plan of applying lime to corn, where lime is dear and a distance to cart it.

4th. Whether it would pay to apply 100 lbs. of guano per acre to buckwheat on poor light land.

5th. I have a door yard in which I wish to set some trees. What kind of dwarf pears had I better get? I should like such as are early, and also thrifty and long-lived. What kind of grass will make the nicest and quickest sod? I want some that will be permanent. I have had to remove all the sod in levelling it.

6th. Will lucerne grow and do well in our climate? AN ORANGE COUNTY SUBSCRIBER

We hope our experienced correspondents will answer the above.

On poor, light land, Peruvian guano is an efficacious manure for buckwheat, unless the weather is too dry. Last summer Mr. HENRY SABIN, of Lee, Mass., showed us a field of buckwheat where he had sown 75 lbs. of Peruvian guano per acre. The whole field was guanoed except two strips twelve feet wide. The effect of the guano was most astonishing. The buckwheat was at least five times as good where the guano was used, as on these strips. On one land Mr. S. in sowing went over the land twice, thus giving it 150 lbs. per acre. Here the buckwheat was somewhat too heavy. The guano was mixed with equal parts of muck, sown broadcast and harrowed in with the seed. Mixing it with muck lays the guano dust, and renders it less unpleasant to sow.

The Madeleine, Doyenne d'Ete, Osband's Summer, Dearborn's Seedling, Tyson and Rostiezer are good varieties of summer pears. They are vigorous growers, and do well on the quince. They ripen in the order named, from the middle of July to the first of September. These six varieties will give you a constant supply of delicious pears for six weeks.

Of later, or autumn varieties, the Bartlett, Seckel, Flem-

ish Beauty, Louise Bonne of Jersey, White Doyenne, Duchess d'Angouleme, will furnish you a constant supply of autumn pears.

Red top, (*Agrostis vulgaris,*) and white clover, (*trifolium repens,*) will make a good sod. We have heard Kentucky blue grass recommended for this purpose, but have no experience with it. Timothy should not be used.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

THE ANNUAL MEETING OF THE STATE AGRICULTURAL SOCIETY

WILL be held at the Capitol on the second Wednesday (13th) of February. Premiums will be awarded on Farms, Essays, Grain and Root Crops, Grains and Seeds, Butter, Cheese, Draining, Irrigation, Winter Fruits, &c. B. P. JOHNSON, Secretary.
AGRICULTURAL ROOMS, ALBANY, Jan. 1, 1856. Feb.—1t.

SEEDS.

VEGETABLE AND FLOWER SEEDS.

I HAVE just imported from France, and now offer for sale the following list of Seeds. They embrace the very best and rarest sorts, and are recommended as quite superior.

VEGETABLES.

CAULIFLOWER—Early Paris, Large Lenormand.
CABBAGE—Superfine Early York, Small Early Savoy, Large late Dutch Drumhead, Winningstadt.
BROCOLI—Early White.
CELERY—White Solid.
CELERIAC, or Turnip-rooted Celery.
CARROT—Early Short-horn.
RADISH—Rose Winter, Early Oval, Long Scarlet.
EGG PLANT—Long Purple, White.
KOHL-RABI—White above ground.
ONION—Giant or Round Madeira, White Lisbon, Blood Red.
CUCUMBER—Early White.
SPINAGE—Very Large English.
MUSKMELON—Nutmeg.
WATERMELON—Spanish.
PEPPER—Common Red.

FLOWERS.

Balsam, double mixed.	Lamarckia aurea
Lathyrus odoratus.	Lavater trimestis rosea.
Aster Chinensis pyramidalis.	Leptosiphon densiflorus.
Portulacca, mixed varieties.	" Androsacea.
Phlox Drummondii.	Papaver, mixed varieties.
Petunia, hybrid varieties.	Delphinum, "
Nemophila insignis.	Scabiosa atropurpurea.
" maculata.	Schizanthus pinnatus.
Barfonia aurea.	" Grahami.
Convolvulus major.	" retusus.
" minor.	" retusus albus.
Mirabilis jalapa.	Mimosa pudicans.
Calandrinia elegans.	Tagetes patula.
Campanula var.	" variegata.
Dianthus Chinensis flore pleno.	Candytuft, many varieties.
Centaurea var.	Zinnia elegans.
Ipomea quamoclit.	Mimulus Cardinalis.
Lupinus, mixed varieties.	Amaranthus, red globe.
Clintonia pulchella.	" orange.
Coreopsis varieties.	" white.
Dracocephalum Moldavicum.	Aquilegia Canadensis.
Enothera purpurea.	" hortensis.
Escholtzia Californica.	Digitalis purpurea.
Gentiana amarella.	Antirrhinum, mixed varieties.
Cheiranthus annuus.	Viola tricolor grandiflora.
Godetia rubicunda.	Penstemon, several varieties.
Xeranthemum.	Dianthus caryophillus.
Kaulfussia Ammelloides.	Cheiranthus incannuus.

And many other sorts which we have not room to mention in detail.

These seeds are neatly put up and marked, and are offered at the rate of sixteen sorts for one dollar, and will be forwarded by mail, postage paid, to any part of the United States.

Orders should be addressed to JAMES VICK,
Proprietor of the Genesee Farmer.

CHINESE OR JAPAN POTATO—DIOSCOREA BATATAS

WM. R. PRINCE & CO., Flushing, N. Y., can supply immediately, for *cash remittances*, genuine sound Dioscoreas, in packages, at $5 and $10 per package, in sealed tin cases, which go safely by Express; or they will retain them subject to order to be sent in March, either dry or growing in small pots. Feb.—1t.

CRANBERRY PLANTS.

UPLAND AND LOWLAND VARIETIES.

BELL or egg shaped is the best variety to cultivate on 'damp' wet, or poor swampy land, where nothing else will grow, often producing from 200 to 300 bushels per acre.

UPLAND CRANBERRY

Are more prolific, but smaller and superior fruit. They grow on poor, cold, unproductive land and hill sides in Canada. Plants of this variety will be for sale in May.

Also, NEW ROCHELLE BLACKBERRY Plants.

Circulars relating to culture, price, &c., will be forwarded to applicants by enclosing a postage stamp.

For sale by F. TROWBRIDGE,
Feb.—1t. Dealer in Trees, Plants, &c., New Haven, Conn.

TO NURSERYMEN.

THE Subscribers offer for sale the following articles:

50,000 Mazzard Cherry Stocks,	$5 per 1,000
20,000 Horse Plum Seedlings,	12 per 1,000
75,000 Grafted Apple Trees, (one year,)	25 per 1,000
75,000 Grafted Apple Roots,	10 per 1,000
50,000 Osage orange, (2 and 3 years,)	$5 and 6 per 1,000
30,000 American Arbor Vitæ,	$25 to 35 per 1,000
2,000 Hybrid Perpetual Roses,	18 per 100

Also on hand a good assortment of well grown Trees for Orchard, Garden, and Ornamental planting.

50,000 Viminalis Willow Cuttings—$2,50 per 1,000.

W. T. & E. SMITH,
Feb.—3t. Geneva Nursery, N. Y.

FARM FOR SALE.

140 ACRES of land, situated in the town of Victor, Ontario county, one mile and a half from Fisher's Station on the New York Central Railroad, and three miles from the village of Victor. One hundred and fifteen acres under cultivation, twenty five timber. Soil, gravelly loam; well watered by never failing streams, springs, wells, fish pond, &c. Some 500 fruit trees of the most choice varieties; two good commodious frame houses; a large barn with basement, with new horse barn, and other out-buildings. Ill health induces the subscriber to part with one of the best farms in one of the pleasantest locations in Western N. Y.

Part of the purchase money can remain on credit if desired.

VICTOR, N. Y., Jan. 18, 1856. P. PARKS.
Feb.—1t.

CHICAGO AGRICULTURAL WAREHOUSE & SEED STORE

Warehouse and Sale Room 45 Franklin street, between John and Randolph streets.

THE subscriber, formerly connected with the "Albany Agricultural Works, Albany, N. Y.," has opened a depot in Chicago where may be found at all times a complete assortment of

FARM MACHINERY AND IMPLEMENTS,

of most approved kinds: also a full stock of *Garden & Field Seeds* Full Catalogues furnished gratis on application.

Jan.—2t HENRY D. EMERY.

AGENTS WANTED!!

MAKE MONEY WHEN YOU CAN.

THE Subscribers desire to procure the undivided time of an Agent in every County of the United States. Efficient and capable men may make several dollars per day, without risk or humbuggery of any kind. Full particulars of the nature of the business will be given by addressing the subscribers, and forwarding *One* Post Office Stamp to prepay postage.

Feb.—1t. FUREY & CO., Philadelphia, Pa.

TOMPKINS' COUNTY KING.

SCIONS or Trees can be furnished of the above variety, cultivated from bearing trees. Also, other new varieties, such as Wagener, Primate, &c. Also, scions of all the leading varieties. Also, a large quantity of the Viminalis Willow, for the basket trade. Cuttings furnished of the above variety for $2,50 per 1,000. W. T. & E. SMITH,
Feb.—3t. Geneva Nursery, N. Y.

LITTLE GIANT CORN AND COB MILL.

THIS is doubtless one of the most important inventions of modern times for the farmer and stock grower. Its simplicity and durability recommend it to every one desiring such a machine. It occupies but little space, and is easily operated by any farm hand. Prices from $40 to $65. For sale at the Chicago Agricultural Warehouse and Seed Store, 45 Franklin street, Chicago, Ill.

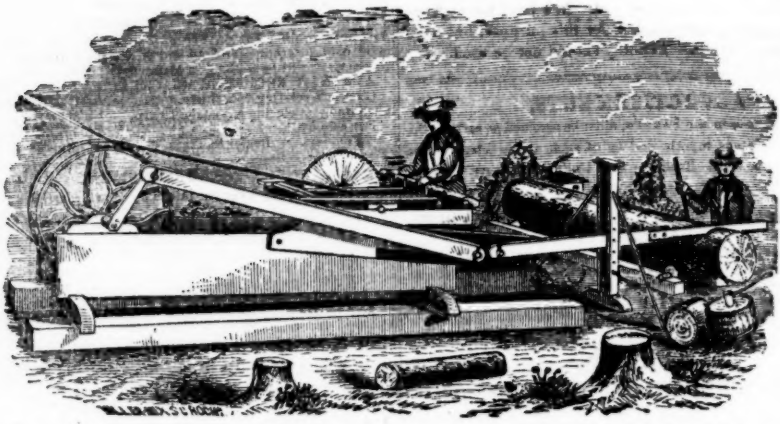
Jan.—2t. HENRY D. EMERY.

NEW PATENT WIND-MILL.

OF superior and simple construction, and easily applied to the driving of all kinds of farm machinery, shop use, etc. Together with all articles usually found in Agricultural Warehouses. Garden and Field Seeds, OSAGE ORANGE and LOCUST SEED and PLANTS. 45 Franklin street, Chicago, Ill.

Jan. 2t HENRY D. EMERY.

HALLOCK'S AGRICULTURAL WAREHOUSE AND SEED STORE,
ROCHESTER, N. Y.



CROSS CUT AND CIRCULAR SAW MILL COMBINED.

THIS Machine received the First Premium at the New York State Fair, at Elmira, 1855.

The above cut represents a new and useful Machine recently perfected by the Subscriber. It is made strong and durable, and is very simply constructed, requiring little skill to operate it, and is not liable to get out of order. It can be driven by any of the ordinary Horse Powers used in Threshing. The saws can be both used at one time, or separately, as may be desired. In sawing wood, the limbs and small trees can be cut with the circular saw, while the cross cut is sawing the bodies of the larger trees; it is useful in sawing barrel heading, stave and shingle bolts, slitting fence stuff, boring caps, and a variety of other purposes for which such saws are employed. The prices are as follows, delivered at the several places of shipment in Rochester.

Combined Machine, with one Circular and one Cross Cut Saw,	$75 00
Single Machine, with one Cross Cut Saw,	35 00
Double " " two " Saws,	50 00
Cap Augur Attachment, extra,	
Circular Saw and Table,	40 00
Emery's Patent Railroad Horse Power for two horses,	120 00
" Threshing Machine and Separator,	40 00
Hall's eight or ten Horse Power,	110 00

Slitting arrangement, from $7 to $10, according to the size of the Saw.

The combined Saw Mill is capable of cutting from 30 to 40 cords of stove wood per day, if properly driven. It is warranted to be well made, of good materials, and to work as represented.

CERTIFICATES.

WEBSTER, January 4, 1855.

MR. E. D. HALLOCK—*Dear Sir:* The Cross Cut and Circular Saw Mill combined, which I purchased from you, works to my entire satisfaction, and I can cheerfully recommend it as a very useful and labor-saving machine. It can be operated with three or four horses on the sweep power, in running either saw singly, and five or six horses will furnish sufficient power to run both at the same time, sawing wood as fast as the same number of men can furnish it to the machine. Very respectfully yours,

SHERMAN FERRIS.

PEMBROKE, September 12, 1855.

MR. HALLOCK: The combined Saw Mill I bought of you works first rate. I attached it to Emery's two horse power, which runs a single saw as fast as two men can get the wood off. I am satisfied, with sufficient power, the combined mill can cut all the wood in a day that any man could desire. Yours, &c.,

E. D. LONG.

The Subscriber is sole agent in Rochester for the sale of EMERY'S CELEBRATED HORSE POWERS, Threshers and Separators, and other machinery manufactured by Emery Brothers, at Albany, N. Y. Also, Circular and Cross Cut Saw Mills, Feed Mills, (Little Giant and others,) Hay, Straw and Stalk Cutters, Corn Shellers, and other machines adapted to Horse Powers. He also keeps constantly on hand a full supply of Plows Harrows, Cultivators, Hay and Straw Cutters for hand use, Reaping and Mowing Machines, Grain Drills, Hand Cider Mills, Churns, Cheese Presses, Spades, Shovels, Manure Forks, Hoes, all of the most approved patterns. Haying Tools of all descriptions; Budding and Pruning Knives, and a great many other useful articles for farm and garden operations.

Also, GRAIN, FIELD and GARDEN SEEDS in their seasons, and warranted good and true to their names.

He manufactures HAND SEED DRILLS for sowing all kinds of small seeds, such as carrots, beets, onions, &c. Also, Clover and Timothy Seed Sowers for hand use. ☞ The one price system is strictly adhered to, and all articles warranted as represented.

☞ All machines furnished at manufacturers' prices, freight being added on heavy articles only.

*** Orders by letter or otherwise promptly attended to.

For further particulars address

Feb.—1t. E. D. HALLOCK, Rochester, N. Y.

RARE AND VALUABLE SEEDS.

THE Subscriber will forward to any *readable* address, packages of the following seeds by mail, free of postage, or postage paid, on the receipt of price, or the entire list in one envelope, for $1 in gold, a current bank bill, or postage stamps.

	Cents.
Nepaul Barley, beardless and skinless, per package,	25
Biennial Rye, two crops from one seeding, "	12½
Pure Poland Oats, forty pounds to the bushel,	12½
Orange Watermelon, rind peels off like the orange,	25
Ice Cream or *White Sugar Melon*, of Alabama,	25
Chinese Hoo-sung, substitute for Asparagus,	25
Five Foot Cucumber, 5 feet long!	12½
Negley's Seedling Cucumber, new and fine,	12½
Cylindrical Pumpkin, 2 feet long,	12½
Glass Melon, very small, for preserves,	12½

N. B.—A Descriptive Catalogue, embracing many other varieties, will be sent on application by mail.

SEND FOR THE CATALOGUE.

Address, (Free,) I. W. BRIGGS, P. M.
County Line Farm, West Macedon, Wayne Co., N. Y.
Feb.—4t.

SYRACUSE NURSERIES.

DISSOLUTION.

THE copartnership heretofore existing between Alanson Thorp, Wm. Brown Smith, John C. Hanchett, and Alfred Fahnestock, under the firm name of Thorp, Smith, Hanchett & Co., is hereby dissolved. Dated Syracuse, January 17th, 1856.

ALANSON THORP,
WM. BROWN SMITH,
JOHN C. HANCHETT,
A. FAHNESTOCK.

The business of the Syracuse Nurseries will be continued by the subscribers, under the firm of Thorp, Smith & Hanchett, to whom the property and effects of the late firm have been transferred, and who are duly authorized to settle all claims or demands in favor of or against said firm.

ALANSON THORP,
WM. BROWN SMITH,
Feb.—1t. J. C. HANCHETT.

EMERY'S PATENT PORTABLE HORSE POWERS,

THRESHERS, Separators, Saw Mills, Corn Shellers, Feed Cutters, etc., for sale at 45 Franklin street, Chicago, Ill.

Jan.—2t. HENRY D. EMERY.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
Every Lady her own Flower Gardener. Price 25 cents.
The American Kitchen Gardener. Price 25 cents.
The American Rose Culturer. Price 25 cents.
Prize Essay on Manures. By S. L. Dana. Price 25 cents.
Skinner's Elements of Agriculture. Price 25 cents.
The Pests of the Farm, with directions for extirpation. Price 25 cents.
Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
The Hog—its Diseases and Management. Price 25 cents.
The American Bird Fancier—Breeding, Raising, &c. 25 cts.
Domestic Fowls and Ornamental Poultry. Price 25 cents.
Chemistry made Easy for the Use of Farmers. Price 25 cts.
The American Poultry Yard. The cheapest and best book published. Price $1.
The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. $1.25.
Buist's Kitchen Gardener. Price 75 cents.
Stockhart's Chemical Field Lectures. Price $1.
Wilson on the Cultivation of Flax. Price 25 cents.
The Farmer's Cyclopedia. By Blake. Price $1.25.
Allen's Rural Architecture. Price $1.25.
Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
Johnston's Agricultural Chemistry. Price $1.25.
Johnston's Elements of Agricultural Chemistry and Geology. Price $1.
Randall's Sheep Husbandry. Price $1.25.
Miner's American Bee-Keeper's Manual. Price $1.
Dadd's American Cattle Doctor. Complete. Price $1.
Fessenden's Complete Farmer and Gardener. 1 vol. Price $1.25.
Allen's Treatise on the Culture of the Grape. Price $1.
Youatt on the Breeds and Management of Sheep. Price 75 cts.
Youatt on the Hog. Complete. Price 50 cents.
Youatt and Martin on Cattle. By Stevens. Price $1.25.
The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price $2.
Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price $4.
Allen's American Farm Book. Price $1.
The American Florist's Guide. Price 75 cents.
The Cottage and Farm Bee-Keeper. Price 50 cents.
Hoare on the Culture of the Grape. Price 50 cents.
Country Dwellings; or the American Architect. Price $6.
Lindley's Guide to the Orchard. Price $1.25.
Gunn's Domestic Medicine. A book for every married man and woman. Price $3.
Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
Allen's Diseases of Domestic Animals. Price 75 cents
Saxton's Rural Hand-books. 2 vols. Price $2.50.
Beattie's Southern Agriculture. Price $1.
Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price $1.25.
The Farmer's Land Measurer; or Pocket Companion. Price 50 cents.
Buist's American Flower Garden Directory. Price $1.25.
The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.
Quinby's Mysteries of Bee-Keeping explained. Price $1.
The Fruit Garden. P. Barry. Price $1.
American Fruit Culturist. J. J. Thomas Price $1.
Downing's Fruits and Fruit Trees of America. Price $1.50.
Cole's American Fruit Book. Price 50 cents.
The Stable Book. Stewart. Price $1.
Lindley's Horticulture. Downing. Price $1.25.
Munn's Practical Land Drainer. Price 50 cents.
Ladies' Companion to the Flower Garden. Downing. Price $1.25.
Norton's Elements of Scientific Agriculture. Price 75 cents.
Landscape Gardening, Parks, and Pleasure Grounds. Smith. Price $1.25.

Rural Annual and Horticultural Directory. Price 25 cents. Do. in cloth, 50 cents.

The above will be sent free upon receipt of price annexed.

FARM FOR SALE—A GREAT BARGAIN.

A farm of 282 acres, four miles south-west of Geneva, Ontario county, near the Geneva and Rushville plank road, and about three miles from the Gorham station of the Canandaigua and Elmira railroad, will be sold for the low price of *fifty dollars* per acre, to close up an estate. It is situated in one of the most beautiful and fertile sections of Western New York. The farm is under excellent cultivation, well fenced and with good buildings, and has 80 acres of woodland. It will be divided into two farms if desired. Terms easy and title perfect. For further particulars enquire of D. C. Mann, at the office of the Rochester Daily American, E. H. Hurd, Esq., Geneva, or C. S. Brother, on the premises. Jan.—tf

ICHABOE GUANO.

JUST received by the brig Wave Spirit, direct from the Ichaboe islands, a cargo of this superior Guano (which is the first cargo arrived since that brought by the ship Shakspeare, in 1845). This Guano is now landed in excellent order, and will be sold in lots to suit purchasers. Samples and analyses will be sent by addressing the agent. As the quantity is small, early application will be necessary. Farmers who cannot remove what they desire, may have it remain on storage until April 1st, at 18¾ cents per ton per month, which includes insurance.

Price, $54 per ton of 2,000 lbs.

A. LONGETT, Agent.
Nov.—tf. 34 Cliff st., corner of Fulton, New York.

Contents of this Number.

J. B. Lawes and Justus Von Liebig 41
Agricultural Improvement in 1855, ... 42
Application of Lime, ... 43
The Profits of the Farm should be invested in improving it, ... 44
Remedy for Chapped Hands, ... 44
Editorial Correspondence from Canada West, ... 45
Grain culture in Ireland, ... 45
Notes by S. W., ... 46
Coloring Butter with Carrots, ... 46
Wheat in California, ... 46
Sheep of Great Britain—Cheviot, or Long Sheep, ... 47
Bone Disease in Cattle, ... 48
Domesticating the Buffalo, ... 48
Good Cows, ... 49
Points of a good Milch Cow, ... 49
Milch Cows in Winter, ... 49
Animals should be kept warm, ... 49
Carrots and Oats, ... 49
Apples for Cows, ... 49
Mange in Cattle, ... 49
Suffolk Hogs in Ohio, ... 49
Feeding Cattle, ... 50
Corn and Cob Meal for Fowls, ... 50
Winter Shelter for Farm Animals, ... 50
A Hill-side Cottage, ... 50
Architecture—Styles and Changes, ... 57
Facts worth remembering, ... 62
Systems of Rotation, ... 64

HORTICULTURAL DEPARTMENT.

The Orchard, ... 56
The Osage Orange, ... 57
Western New York Fruit Growers' Association, ... 58
Fruit in Illinois, ... 60

LADIES' DEPARTMENT.

The Fairies' Frolic, ... 61
Hints for Housewives, ... 62

YOUTH'S DEPARTMENT.

Gardening for Youth—Annual Plants, ... 63

EDITOR'S TABLE.

Cheering Prospects, ... 64
Our Premiums, ... 64
United States Agricultural Society, ... 64
The Rural New Yorker, ... 65
Death of Dr. T. W. Harris, ... 65
Birmingham Cattle and Poultry Show, ... 65
Guano on Corn, ... 65
The Genesee Farmer 65
Choice Seeds, Notices to Subscribers, &c., ... 66
Notices of New Books, Periodicals, &c. 67
Inquiries and Answers, ... 67
To Dry Cows, ... 67
Shoeing large Oxen, ... 67
Basket Willow, ... 68
Ashes in Manure Heaps, ... 68
Wind-Mill, ... 68
Broken Horn in Cattle, ... 68
Southern Pea, ... 68
Unleached Ashes for Corn, ... 68
Guano for Buckwheat, Dwarf Pears, &c., ... 68

ILLUSTRATIONS.

Cheviot Ram and Ewe 47
Hill-side Cottage 51
Basement and Attic Plans of do., ... 51
Architecture—Styles and Changes—
Fig. 1, Showing the different styles of architecture, ... 52
Fig. 2, Principles of pressure, ... 53
Fig. 3, Showing the Progress of Grecian architecture, ... 53
Fig. 4, Principle of forming abutments for Gothic arches, ... 53
Fig. 5, Principle of perpendicular pressure in Indian architecture, ... 54
Fig. 6, Specimens of Indian columns, ... 54
Fig. 7, Specimens of Grecian columns, ... 55

PREMIUMS FOR 1856!

We ask the attention of our friends everywhere to the *Premiums* we offer for the coming year. There is no better way to procure good agricultural reading than by obtaining subscribers for the *Genesee Farmer*.

1. To every person who sends us a club of eight subscribers at our regular terms, *(three shillings each)* we will give one copy of the *Rural Annual* for his trouble.

2. To every person who sends us SIXTEEN subscribers at our club terms of *three shillings each*, one extra copy of the *Farmer* and one copy of the *Rural Annual*.

3. To every person sending us TWENTY-FOUR subscribers, as above, two copies of the *Rural Annual*, and one extra copy of the *Farmer*, or, any agricultural work valued at 50 cents, *postage paid*.

4. To any person ordering THIRTY-TWO copies of the Farmer, three copies of the *Rural Annual* and one extra copy of the *Farmer*, or, any agricultural book valued at 75 cents, *postage paid*.

5. For FORTY, four copies of the *Rural Annual* and one extra copy of the *Farmer*, or, any agricultural book valued at $1, *postage paid*, or, four extra copies of the *Farmer*.

6. For FORTY-EIGHT, five copies of the *Rural Annual* and one extra copy of the *Farmer*, or, any agricultural book valued at $1.25, *postage paid*, or, five extra copies of the *Farmer*.

For larger numbers, books or papers given in the same proportion.

☞ To save expense to our friends, we pay the postage on all these works, and persons entitled will state what they wish sent, and make their selections when they send orders; or if their list is not complete, if wished, we will delay sending until the club is full.

Premiums for the Greatest Number of Subscribers.

In order to excite a little competition among our friends everywhere, as well as to reward them for their voluntary labors in behalf of our journal, we make the following liberal offer. Those who do not get the premiums offered below are sure of the above, so that we have no blanks.

1. FIFTY DOLLARS, in Agricultural Books, to the person who shall send us the largest number of subscribers, at the club prices, before the 15th day of April next, so that we may announce the successful competitors in the May number.

2. THIRTY DOLLARS, in Agricultural Books, to the person who shall send us the second highest list, as above.

3. TEN DOLLARS, in Agricultural Books, to the person who shall send us the third highest list, as above.

Our object in offering books is to increase their circulation throughout the country. Those who prefer nursery trees, plants, &c., can be accommodated; and if any prefer the money, we will make arrangements accordingly.

Clubs are not required to be at one post office or sent to one address. We send wherever the members of the club may desire.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.—We have just published a very neat little book of 120 pages with the above title. It is devoted to the *Orchard*, the *Vineyard*, and the *Flower Garden and Lawn*: and we shall only express the opinion of all who have seen it, when we say that it is the best little work yet published on the subjects of which it so plainly and carefully treats. Anxious to make the circulation of this useful little work as general as possible, we make the following proposition, to those who form clubs for the *Genesee Farmer:* For FOUR DOLLARS we will send *eight copies* of the *Genesee Farmer* and *eight copies* of the *Rural Annual*. For EIGHT DOLLARS we will send *sixteen copies* of the *Genesee Farmer* and *sixteen copies* of the *Rural Annual*, and one extra copy of each for the person who gets up the club.

Any person sending us $3 for a club of eight of the *Genesee Farmer* shall receive one copy of the *Rural Annual* for his trouble.

The Practical and Scientific Farmer's Own Paper.

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE,

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Animals, Implements, Fruits, &c.

VOLUME XVII. FOR 1856.

IN issuing a prospectus for the Seventeenth Volume of the Genesee Farmer, the publisher flatters himself that it is too widely known, too extensively circulated, and too well read, to render it necessary to state at length the design of the work. Those who read the Farmer are the best judges of its value, and those unacquainted with it are requested to examine its pages. He will only say that for the year 1856 he will furnish a paper that for size, beauty, and ability, will not be excelled in this country.

The new volume will commence on the first of January, and will be printed on NEW TYPE and SUPERIOR PAPER, and each number will contain about ONE-THIRD more reading than at present. Each monthly number will consist of THIRTY-TWO large pages, making a volume of 384 pages, with several hundred engravings, (with title page, index, &c., suitable for binding), at the close of the year. No one would sell the volume at the end of the year for its cost.

Our Illustrations are NUMEROUS, APPROPRIATE, and EXPENSIVE, consisting of Farm Buildings, Improved Implements, Domestic Animals, Choice Fruits, Flowers, Shrubs, &c., &c.

We number among our Contributors hundreds of the best practical Farmers in the country, and our readers have through our pages, the benefit of their wisdom and experience. No thinking man can read any number we issue, without receiving some useful hint in regard to the management of Crops, Stock, or the Orchard, of more value than the price of the volume. Our large circulation enables us to furnish a paper for three or four shillings equal, at least, to the best in the country for value and beauty.

An earnest advocate of improvement of both the MIND and the SOIL, the FARMER seeks to advance the rural interests of the country, and elevate the profession of Agriculture to its proper position. To accomplish this, it has labored long and faithfully, and not without some success. It is one of the oldest, and its position as the CHEAPEST, and at least one of the BEST AGRICULTURAL JOURNALS in the country is fully established, and we confidently ask for it that support which it merits from the Farmers, Gardeners, and Fruit Culturists of the United States. We invite all who feel the importance of sustaining this work, and extending its usefulness, not only to subscribe themselves, but to introduce it to the patronage of their friends.

Fifty Cents a Year, in Advance.

Five Copies for $2; Eight Copies for $3; and any larger number at the same rate.

☞ All subscriptions to commence with the year, and the entire volume supplied to all subscribers.

☞ POST-MASTERS, FARMERS, and all friends of improvement are respectfully solicited to obtain and forward subscriptions.

Subscription money, if properly enclosed, may be sent (post-paid or free) at the risk of the Publisher. Address

JAMES VICK,

November, 1855. *Rochester, New York.*

1856.

EVERYBODY SHOULD HAVE A COPY.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.

CONTAINING directions for the prepartion of the ground for the *Orchard* and *Fruit Garden*, planting, pruning, etc. Also plain directions for making and planting the *Lawn* and *Flower Garden*, and a *Catalogue of Nurserymen* in the United States, Canada, and Europe, etc. *Illustrated with Sixty Engravings.*

SYNOPSIS OF CONTENTS.

THE FRUIT GARDEN AND ORCHARD.

Preparation of the Ground.—Suitable Soils, Draining, Subsoiling, and Trenching, Manures, etc.

Directions for Planting, Pruning, etc.—Proper Season for Transplanting, Laying out the Ground, Distances at which Trees should be Set, Planting, Mulching, Pruning, Staking, etc.

Diseases.—Fire Blight, Leaf Blight, Black Knot on the Plum, Yellows in Peach Trees, Bursting of the Bark, or Gum on Cherry Trees, Mildew on the Peach, Curl of the Leaf in the Peach.

Insects Injurious to Fruit Trees.—Aphis, or Plant Louse, Woolly Aphis, or American Blight, Scaly Aphis, or Bark Louse, Apple Tree Borer, Apple Worm, Canker Worm, Caterpillars, Cherry or Pear Slug, Curculio, Ants, Peach Tree Borer, Rose Bug, Leaf Rollers.

Animals Injurious to Fruit Trees.—Birds, Field Mice, Moles Cats, Hogs, etc.

Dwarf Trees for the Garden.

List of Fruits Recommended by State Societies.

List of Fruits Recommended by the American Pomological Society.

THE VINEYARD.

Soil and Position, Preparation of the Soil, Laying off, Planting, Treatment, Pruning and Training, Rubbing out and Pinching.

THE LAWN AND FLOWER GARDEN.

Preparing the Soil and Laying out the Garden.

Planting the Lawn and Garden.—Deciduous Trees, Evergreen Trees, Shrubs, Roses, Bedding Plants, etc.

LIST OF NURSERYMEN IN THE UNITED STATES, CANADA, AND EUROPE.

Published at the office of the *Genesee Farmer*, by JAMES VICK. For sale at retail, paper covers, 25 cents; cloth covers, 50 cents. Wholesale, paper covers, $2 per doz.; $12.50 per hundred; $90 for 500; cloth, $4 per dozen.